CALIFORNIA STATE JOURNAL OF MEDICINE

BEAUTIFUL YOSEMITE
LEFT TO RIGHT — NORTH DOME, ROYAL ARCHES, WASHINGTON COLUMN, MERCED RIVER AND HALF DOME

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EDITOR AND SECRETARY - - - - - - - - - W. E. MUSGRAVE, M. D.
MANAGING EDITOR - - - - - - - - - - CELESTINE J. SULLIVAN

FEBRUARY CONTENTS

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VOL. XX FEBRUARY, 1922 No. 2

ORIGINAL ARTICLES

THE OPERATIVE TREATMENT OF STRABISMUS *

By WALTER S. FRANKLIN, M. D., F. A. C. S., and WARREN D. HORNER, B. S., M. D., San Francisco.

In this paper we present a resumé of forty-eight consecutive cases of muscle deviation which were treated surgically. The tables give exact details of results and other data. It is our firm conviction that no one method or procedure is superior universally, and that the end-result is more a matter of the finer details and proper following out of accepted published operations. For example, our results have been unsatisfactory with the Briggs clamp. A colleague uses this method exclusively and claims to find it satisfactory. By analogy we feel that we must have missed one or more of the finer but essential details in the published reports of the operation and its application. This point explains the multitudinous procedures and operative methods for the same condition. The author of a method obtains certain results. It is published and followed correctly, that is, presumably, but the results differ and other methods are conjured to obtain more satisfactory cures.

The Reese resection has proven thoroughly reliable in our hands, but it is essential to follow the details of the operation minutely. Occasionally a new interne or a change in surgical nurses has resulted in some modification in technic, for example, forgetting to properly wax the sutures—the annoyance and possible failure cannot be exaggerated.

We wish to emphasize the cultivation of one operative method and its application to all cases in which it applies. In this manner our judgment of quantity, so essential in muscle deviation cases, is sharpened and the operation will be done under like conditions. The majority of our cases were operated upon under general anæsthesia. It is difficult to estimate the amount of shortening required, due to the changed conditions and relaxation from the anæsthetic, but one acquires a sense of proportion after a few cases. In our experience the nervous shock to the patient under a local anæsthetic is greater than the possible nausea following a general anæsthetic. The surgeon has more freedom and is under less tension while operating upon the patient under narcosis.

The Reese resection was performed twenty-two times. The results were universally good with the exception of a few cases in which further operative measures were necessary. We have found that the suture, its strength and proper waxing, are the pivotal points of this operation.

An advancement was not done in any case. The scleral puncture has never appealed to us. The uncertainty of depth and having noted two cases of perforation in the practice of colleagues, have determined us against this procedure. We do not doubt that others may obtain satisfactory corrections by some form of advancement, but it is not our choice.

The clamp was utilized in nine cases. According to its author, a snip is made below the muscle, which we supplemented with a counter-puncture above. By this modification, the entire muscle, capsule and conjunctiva were included in the tucking. The cases were done under local anesthesia. We are free to admit that the results were uniformly bad with the exception of one case of esophoria, which is the only phoria one included in this series. The clamp changes its position after a few days, the upper end slipping downward, and in all cases careful attention was given to proper tightening, so much so that the forceps were always removed with difficulty. All cases were greatly undercorrected. Following the first poor results, special attention was given to the muscle-loop pulled through, and its fastening.

The Todd tucking was employed eleven times, and here we noted far better results in the later cases. The difficulty in placing the suture with the muscle under tension from the tucker, is greatly simplified by using a small curved mounted aneurysm needle. This latter modification can be recommended.

A few cases presented rather unusual features. In one the Reese resection was done, following a long period of radium therapy, for double-sided tubercular keratitis. The eyes had been quiescent and considered cured for over a month before the operation. The reaction on the operated eye was violent. It consisted in puffiness of the lids and marked chemosis, exophthalmus and symptoms of strangulation. We feared an orbital phlegmon, but the cellulitis cleared, with no bad sequellæ.

A young boy with congenital paralysis of the left external rectus received a moderate result by a transplantation of the outer half of both vertical recti muscles.

A young girl was scheduled for a resection. After performing the tenotomy, the eye became so free and limp in its motions that nothing further other than a restraining suture was attempted.

* From the Department of Ophthalmology, University of California.

This case presented but little improvement for her convergent strabismus, and required reoperation.

An adult, a marine, was operated upon for a convergent strabismus. At various times he had free and typically projectile vomiting sufficient to bathe the cut surfaces of both eyes and the surgeons with stomach contents. Copious lavage was resorted to, and fortunately no infection followed.

A young boy acquired a partial retinal detachment, following a small perforation of the sclera while snipping a buttonhole in the tendon for a partial tenotomy.

No attempt has been made to describe the operative technic employed, as we lay no claim to originality. The cases were operated upon according to the accepted methods, and we changed to the different operations to prove our first-stated contention, that it is the operator and not the particular method chosen which gives results. We cannot too strongly emphasize the cultivation of one operative procedure varying same only when forced to by its nonadaptability.

This is especially true for those of us who have not an abundant material at our disposal and who operate rather infrequently.

One cannot be too cautious in predicting the end-result from one operation, and the patient should be warned as to the possibility of a repetition.

We no longer assume any arbitrary age limit in determining when to operate. Every case must be decided individually. It may be stated here that orthopedic methods were consistently resorted to where indicated, and in general the surgical intervention was considered as the final means of obtaining a straight eye.

Age of Patients in Ten-Year Periods

First ten years	12
Ten to twenty years	10
Twenty to thirty years	21
Thirty to forty years	4
Over forty years	1

Diagnosis

Left internal strabismus	19
Right internal strabismus	11
External strabismus	10
Alternating internal strabismus	5
Alternating external strabismus	2
Esophoria	1

Cases of Refractive Error

Co. hyperopic astig	33
Co. myopic astig	8
Hyperopia	4
Myopia	1
Mixed astig	2

Previous Treatment

Glasses previously	39
Exercises including stereoscope, patch, atropine, etc	42
Prisms	1
No treatment	6

Type of Operation

Reese resection	22
Clamp	9
Todd tucking	11
Tenotomy only	6
One eye, muscles	28
Both eyes, muscles	20
Operated on second time	6
Second operation advised	7

Results

Good	21
Partial	10
Poor	9
Not followed	8

Office Strabismus Cases.

Case		Age	Diagnosis	History & Duration	Vision with correction	Procedure	Result and comment.
1.		34	Alternating diverg. squint	Gl.8 yrs. Couldn't pass Navy Phys.Ex.	RE 1.2 with 25S -75x10S 1.0 LE 1.0 with 25S -1.00X75 = 1.0	LE resection internus.Tenotomy l.ext. RE partial sub.conj.tend externus	Later Rt. int. tucked.Partial tenot.R.ext. L E tenot.ext.
2.		37	Alternating Int.Strabismus	Since childhood following disease measles ? Gl. for reading.	RE 0.7 with -5.00S = 1.0 LE0.6 - 4.50S -50X45 = 1.7	Tuck -L.Ext. Rect. Tenotomy L.Int.Rect.	Later-Advance lt.int.rect. Compl.tenotomy lft.Externus. Wearing almost full correction. Straight.
3.		5	Alt.Strabismus Int.	At 14 mos. first noticed eyes turning in. At 2 yrs crossed for day at time. Glasses.	RE 6/24 - 25S - 50X15°=6/12 LE 6/24 - 50X120 6/15	Stereoscopic exercises & much benefit Op.resection rt.ext.Tenot. int.partial	Straight
4.		22	L.int.Strab.		RE1.0x1.50S 50 x15 = 1.0 LE-1.0S-1.0x150 =0.4	Resection	Excellent
5.		20	2 mm inward turning	L vision poor Gl.14mos.Convergence to cross test	RE 1.0c-0.5x90=1.2 LE 0.3c-75S-2.0 x60=0.8	Clamp L.ext Rect.tenot. int.left Later RE. tenot.int. tuck ext.	Not good
6.		23	L.int.strab. 42° with gl. 10° S gl.	Followed pertusis set.2. Wore gl.	RE-2.50 -62x80V = 1.2 LE-2.50 -50x60V = 0.6	Tuck left ext. Tenot. l. int.	Moderate
7.		5	Diverg.strab. rt.38° can fix with either eye	Followed chicken pox set.2	RE3/15c-0.50S - 1.00x165 LE -75 -50x45°	Tuck rt.int Tenot.rt. externus	Much improved but still some what diverg.
8.		4	Int.strab. L.eye 21°	Onset set 2mo.Gl set 2yrs.Didn't wear same	RE+1llot-.75 LE1/10+1lot.-.40 -1.00x90	Tuck L.ext. Tenot.L.int	Excellent

- 2 - Case	Age	Diagnosis	History & Duration	Vision with correction	Procedure	Result and comment
9.	24	Rt.int.strab. esophoria 20° Cover test +	3 yrs.of age wore glasses	RE-2.5 -.50x75= 20/30 LE20/50 -75 - 75x90= 20/30	Clamp Rt.ext. tenot.l.int. partial clamp lt.ext.	Not good
10.	17	Int.strab.alt 30°.Spastic contr.int.& limited motion ext.	Since early childhood. Gl.since 2 yrs.Stereo. exercises	RE 0.45-2.0 - 1.5x60 0.8- LE0.5-2.5 -1.5 x110 0.8-	Resection rt. ext.Tenot.rt. int.rect.	Excellent
11.	23	Lf.int.strab.	Since childhood. No.gl.	RE 1.25-2.00 -50 x80=1.0 LE0.15-4.5 -75x 80 = 0.1	Advancement ext.rect. Tenot.l.int. rect	LE turned in again.5° inward turning RE. 2nd op. advised to tuck rt.ext. & part.tenot rt.int.local
12.	22	Ext.strab. RE	Since childhood	RE 0.55-1.25SAx 110= 0.6 LE 0.65-1.00CA 60° = 0.8	Resection rt. int.rectus. partial ten. rt.ext.rect.	Result at op. good.Tremendous resction post-op.Threatened abscess Ice comp.
13.	9	Rt.int.strab. Fixes with l.	Pertussis aet.5 Rt. int.strab.	RE1.0c-25-25x 100= 1.0 LE1.0c-12 -37x 0.5 1.0	Resect.rt. ext.Partial tenot.int.	Suture broke in muscle. Some diffic. in bringing ends together 2nd op.tobedn
14.	4	Lf.int.strab.	Influenza aet.2.Noted after same	RE .7 illot.-1.5 -25x90 LE less than 1/10 -30-75x95	Tenotomy-sub. conj.tenot. lf.ext.rect. Held by sut. to temple	After tenot (genl) immed. diverg.Held by suture to cheek.Second. op.advised.
15.	30	Exophoria 8-12°	Headaches	RE0.6-50 -25x175 1.2 LE 0.25 -25V5=1.0	Tenot.partial both externi.	?
16.	5	Int.strab.lf. eye	Birth inj. Lf.eye swollen	RE 2-2.5 sph. LE1/20-4.0 -1.0x 100	Resection L. ext.rectus. Partial tenot L.rect.Part. tenot.rt.rect	Maximum. Eyes remain straighter.

- 3 - Case		Age	Diagnosis	History & Duration	Vision with correction	Procedure	Result and comment
17.		20	Lf.int. strab. Cover to cover test	Gl.18mos.Came re.poor vision	RE6/7-50Cx90° 6/5 LE6/20-75spk. -2Cx60 5/7.0	Clamp Ext.rect LE. Tenot.int. LE.	Secondary op. 1½yr.later. Tuck rt.ext.
18.		22	R.Hyp.4°.Exoph. Rt.12°Marked to cover test	Eye worse when pt. tired.	RE 20/20-50x90 LE 20/20-50x90	Surgery advised Procedure not given.None done	Tenot.rt.int. op.done.no notes of procedure or re.
19.		21	Alternating Strabismus	Since 4 yrs. old	RE20/30-1.00 sph= 20/30 LE20/30-2.5-50x180 = 20/30	Advancement RE ext.rect. Leng.L Internus	Op.done 12/21 17.Nature? Result?
20.		18	Rt. ext.strab 5 mm outward Cap.cataract	Since childhood gl 12-15yrs of age No help.	RE Ambl. LE-75sph.20/15	Resection int. rect. rt.	Another op. advised.
21.		18	Int.strab. rt.7 mm or 30°	Since age of 3.Gl.at 4	R 1/10 L 1.0	Resection rt. ext.rect.Ten. int.rec.rt.eye	Excellent
22.		25	Diverg.strab. Rt.eye	No glasses	R 1/10 amb. L 0.5-25 -1.00 x110 6/7	Resect.rt.int. rect. Tenot. rt.ext.rect.	Better.Clamp op.later. Finger exerc.
23		3	Int.strab. Rt. eye	Since 7 yrs. old.Fell out of bed. Gl. 1 yr.	R-3.00 -75x90 =6/6 L-3.0 -25x90 6/6	Advance rt. ext.rect. Tenot.rt. int.rect.	Stereo. exer. as follow up.
24.		57	Lf.hyp.5° Exoph.13°	Strained feelings	R-3.75-1.5x6°= 20/20 1-2.25 -1.25x180 =20/20	Partial tenot. rt.&lf.ext. rect.	Exoph.6° LH 2°
25.		2½	Lf.inward turning, smaller than R.Atrophy L. ext.rect.	Birth inj. L.ext.rect. atrophic	R ? L ?	Tenot.L.int. rect.Transp. ofext.half int. &sup.recti into ext.rect.attach	Advancement Atrophic ext. rectus. Result?
26.		36	Diverg.to cover test.Exoph 7°		R-25 -25x10=6/6 L-25 sph= 6/6	Prisms. Tenot. both ext. Clamp int.	Eyes variable Exoph 1/2°
27.		21	Esophoria near about 6°	College work	R-50 -1.0x105 20/20 L-50 -1.0x85 20/20	Op.nature?	Esoph 2° Esoph 5° Prisms 2° B out.

STRABISMUS CASES, CLINIC.

Case		O.P.D. Number	Diagnosis	History & Duration	Vision OD-Rx OS-Rx	Procedure	Result & Comment
1.		62670	Rt.Int.Strabis.	Rt.Int.Strabis since age of 1.	RE 20/15 with Rx +a75 = 20/15 LE 20/15 with + 50 = 20/15	Clamp.Shorten Rt.Externus. Lengthen both both interni.	Improved.Stereoscopic exercises. Sl. int Strabismus remained.Local anes.vomiting
2.		52646	Rt.int.Strabis. 45°	Glasses 7 yrs.	RE 20/30 +.75X90-20/20 LE 20/50 -75S-2.00 X90 20/20	Resection. Rt. ext.rect. Tenotomy rt. int.	Improved,extent not given. General anes.
3.		63174	RE int.Strabis.	Int.Strab. RE past 1 yr.since flu. No glasses	RE fingers 5 ft. Ambly.+3.50 sph.+ 1.75X100? LE 20/80 +2.50S + 50X75 = 20/30?	Resection. Rt. Ext.Tenotomy rt. int.	2 wks. p.o. eye turned in again.
4.		54911	LE Int. Strab. about 45°	Aet.2½ hit head left side thru fall. 1 mo. later lft. eye turned in.Gl.since act.7	RE 20/20 +3.50S-20/18 LE 20/200+4.00S = 20/100	Resection.1.E. Ext. rectus.4 mm. Ten.internus.	Excellent
5.		53250	RE.Int.Strab.	Duration Aet.3 at 7 wore gl. Previous exercises & help	RE 20/200 + 1.00 X 30° = 20/200 LE 20/20 +50S +1.25 X165 20/20	Clamp. Rt.Externus. Tenotomy intermus.	Anes? Improved but not straight. To return for 2nd.op.later.
6.		65975	LE. Int. Strab.	Int. Strab. LE since aet.2	RE 20/40+1.00S+50X 90-20/20 LE 3/200 No imp. Ambly.	Resection. Ext.Rect.LE. Ten.int.rect. LE.	Gen'l anes. Result good. Eye straight.
7.		72007	LE.Int.Strab.	Since childhood. Gl.?	RE 20/30 +2.50S-X90 - 20/20 LE 20/200 +1.25S = no imp ambly.	Tuck LE Externus. Tenotomy L int.	Gen l anes. Eye straight for 1st.5 dys. Became convergent. Final res.little better than orig to be re-op.

- 2 - Case		O.P.D. Number	Diagnosis	History & Duration	Vision OD-Rx OS-Rx	Procedure	Result &Comment
8.		61343	RE Int.strab.	Since age of 6 follows pertussis wore gl.8-10 yrs.	RE20/50-25S -50x85 no imp.RE20/50 -25S-50x85 ambly.	Clamp rt.ext. Tenotomy rt. internus	Eyes straight 2 mos.P.op.
9.		48980	LE int.strab.	Since 4 yrs. following chicken pox. no. gl.	RE 20/30-1.50 S-50x180 20/20 LE20/70 No.imp ambl.	?Kind of op	Apparently not gd. Note to return 3 mos.re 2nd op.9 Mos.later.still some strab.present.
10.		63871	LE int.strab.	6 yrs.ago following fall. op. as child	RE20/15-1.00S -25x135 20/20 LEfingers 5' ambl.	Lengthen LE ext. Ten. L.int.	Anes. gen. Excellent.
11.		59247	Int.strab. left eye	O.S.in since birth.Gl.from 5 - 10	RE20/20-50S= 20/20 LE fing.5' ambl	Clamp L.ext. Tenot.L int.	Genl anes. Not satisfactory.
12.		70810	LE int.strab.	Born so.	RE20/50-1.50 -1.25x90 20/20 LE 2/200ambly	Tuck l.ext. Int.ten. Suture to cheek.	Result good p.op. Eye in in 1 week. Consid. op. react. Gen. anes.
13.		69614	16°Exophoria 4°Hyperph.	Worn S.base in. headaches Gdn.since 12	RE20/40-75x90 =20/20 LE20/50-75x90 =20/50	Clamp l.int. rect.Tenotomy l.ext.r.	Gen.anes.Small ulcer near N.limbus.L.eye F.D.11°. exophoria no HA
14.		57853	Strab.Rt. diverg.	Strab.since 11 mo.Forceps baby	?	L.tenotomy ext.rect.Accid puncture rt. sclera in op.	7 mo.later retinal detachment found rt.eye.Size increased in next 8 mo. Fundus not visible
15.		66699	Int. strab RE	Duration? Tenot.rt.int. rect.5yrsago	RE20/200 no imp.ambly LE-1.00S-50x 90 20/20	Clamp Rt.ext. rect.	Result? Complained of lump.left by clamp. Anes.gen.
16.		44946	Strab.15° Conv.Fixes & rt.eye alt.	Strab.follows pertussis set 2.gl.& exer.	RE20/30-4.00S =20/20 LE20/20-4.00S =20/20	Op. kind not spec.for strab	Convergence 15° Result? Anes.local
17.		42777	L.int.strab.	Since 3mos. gl.6 yrs.	RE20/50-1.25S -50x180 20/15 LE fingers 4' ambly	Tenotomy Lf. int. Fixation sut. canthus	1.mo.later 15° int strab OS.Reop-Advancement 3 mos.late Result?

STRABISMUS CASES (con't) CLINIC.

Case		O.P.D.	Diagnosis	History & Duration	Vission & Glass	Proceedure	Result and Comment
18		56507	Int. Strab. R.E.	Dur.1½ yrs. gl. 1 yr.	RE 20/30+2.00 +75X20 20/15 LE 20/30+2.00 +1.25X150 20/15	Resection Ext. rt.partial tenotomy,rt.internus.	Gen. anes. Eyes straightened
19		43184	Diverg.Squint Rt. eye. Diverg.30°rt.	10 yrs.ago hurt rt. eye on chair corner. Grad. turning out since.	RE 20/15?-1.00 sph. LE 20/20 ?-1.00 sph.	Rt. int. rectus mass of scar tissue. Could not advance, same unf.	Advised that advantement of lft. int. rectus be made later.
20		45122	Int. Strab. L.E.	Aet.4 mother noted lt. eye turn in. Gl. since.	RE 20/20+2.00s +75X40 20/20 LE 20/50-2.50c +50X180 20/30	Resection L.E. Ext.rect.Resection R.external rec.Tenot.rt.int rectus.	Result P.O. perfect
21		47483	cExt. Strab. left.	3 yrs. ago follows pneumonia.	RE 30/20+3.00+ 1.00X120 20/20 LE 20/200 not imp.ambl.	Resection rt.ext rectus. Tenotomy left internus.	Eye Straight.

UROLOGICAL DIAGNOSIS*

By GEORGE F. FARMAN, M. D., Santa Barbara, Calif.
From the Santa Barbara Clinic

The diagnosis of diseases of the kidney is becoming more and more a matter of scientific accuracy. In a large measure this is due to the perfection of cystoscopic technique, radiology, pyelography, blood and urine analysis, and renal functional estimation. Opinions as to the proper treatment are frequently at variance, but the fact remains that our estimate of kidney pathology may be made quite accurately in by far the great majority of cases.

In spite of these facts, there still exists a widespread laxity among members of the medical profession in regard to the diagnosis of genito-urinary conditions. This is mainly due to three factors:

1. The common practice of empirical treatment in the genito-urinary tract.
2. A lack of knowledge of the pathology of diseases of the kidney.
3. The necessity for special examination in the diagnosis of kidney conditions.

The common practice of empirical treatment in lesions of the genito-urinary tract should be discontinued. Too often we prescribe for symptoms of urinary disease, without sufficient study to determine the true cause of the condition. Fortunately many symptoms disappear temporarily under empirical treatment, but the pathological process may remain to further damage the kidney, and allied organs.

Roughly, we separate cases of urinary disease into two great groups, Nephritis, and Cystitis. In treating nephritis we outline a diet and in treating cystitis we often prescribe a drug, while the important causes of both diseases remain unrecognized and untreated. Cases of supposed simple nephritis we may later discover are cases of renal tuberculosis, renal calculi or infected hydronephrosis, and likewise supposed simple cases of cystitis we later discover are cases of bladder stone, bladder tumor, prostatitis, or disease of the upper urinary tract.

A correct understanding of the pathology, as well as the chronic nature of diseases of the kidney is necessary before correct diagnosis can be made and adequate treatment administered. Years may elapse between the onset of kidney lesions and their culmination into frank disease entities. Careful questioning of the patients usually illicits a history of previous urinary distress or discomfort along urinary tract.

Acute urinary diseases of the inflammatory or obstructive type usually are manifestations of underlying more serious conditions. Typical of this are the cases of acute pyelitis manifested by the symptom complex—pain in the back, frequency, burning, and pyuria. Acute pyelitis occurs more often in those type of kidneys favoring infection of the real pelvis due to abnormal mobility, congenital or acquired anatomical defect. Acute kidney colic is caused by obstruction to the urine outflow in some part of the urinary tract. The obstructing process may be within the lumen of the urinary tract, common examples of which are pelvic and ureteral calculi; within the wall of the tract iself such as inflammatory or traumatic stricture or without the lumen, the most common example being the pregnant uterus. Repeated acute attacks of inflammation or obstruction lead to dilatation and distortion of the urinary tract, favor infection, urinary stasis, stone formation and destruction of kidney tissue. Kidney cells once destroyed are not replaced, but their function compensated for by hypertrophy and hyperactivity of the remaining normal tissue.

The kidney is not a readily accessible organ, which no doubt accounts for delay and failure in diagnosis of kidney lesions. We are want to make a pass at kidney palpation, do a hasty urinalysis, and send the patient on his way with a prescription for one of the many urinary drugs. If we are to recognize kidney lesions at their incident, we must put our patients through a routine of careful history taking and physical examination; through routine radiography of the entire urinary tract, through detailed blood and urinary analysis, and through the usual urological procedures.

Cystoscopy offers a safe, rapid, objective means of examination invaluable in the accurate localization of lesion of the genito-urinary tract; and every case presenting symptoms should have the benefit of such examination unless contra indicated.

* Read before the Santa Barbara County Medical Society, May 23, 1921.

The urologist stands in mid-position between the internist and the surgeon and insures the better surgical treatment of medical patients and the better treatment of surgical patients.

The physician is inclined to delay and the surgeon to pass up urological study. There is need for the closer correlation of the medical and surgical viewpoint in urinary diseases.

Illustrative of the above statements we cite the following case:

CASE REPORT

Mrs. B. O. Complains of recurrent attacks of right-sided colic and constant backache. Fourteen years ago during her first pregnancy she had considerable backache on the right side. Three years later she had a definite and rather typical attack of renal colic. There have been a number of similar attacks since that date, the last one eight days ago.

The patient is 34 years of age, the mother of two children, and aside from the renal colic has enjoyed good health. The right kidney is palpable as a tender mass opposite the umbilicus. No other physical findings of importance.

Cystoscopy shows mild generalized cystitis, marked congestion and cystic edema below right ureteral orifice. The right ureteral orifice appears larger and more retracted than normal.

The bladder urine contained 160 pus cells per c. mm.; the urine from the right kidney was very dark in color, ammoniacal, contained 22 pus cells per c. mm.; urine from left kidney clear, and contained 20 pus cells per c. mm. All three specimens were culturally negative and negative for tubercle bacilli.

The phthalein test showed an output of 10 per cent on the right side and 40 per cent on the left.

Plain X-rays made with shadowgraph ureteral catheters insitu, showed a calcified circular shadow, the size of a hazelnut at the end of the right ureteral catheter.

Pyelogyram of the right renal pelvis, using 24 cc. of a 10 per cent solution of thorium nitrate for the opaque medium, shows the right kidney in a low position about midway between the twelfth rib and the iliac crest. There is large hydronephrosis of the renal pelvis; destruction of the minor calices with clubbing of the ends, and the formation of individual rounded areas.

From the above data a diagnosis of nephrolithiasis and hydronephrosis was made. Plates made two days later continued to show the presence of the calcified shadow in the right kidney area.

Right nephrectomy was performed February 25. The patient left the hospital twelve days after the operation following an uneventful convalescence.

Pathology: The kidney measures 11:25 cm.x 5.3x5.0 cm. and weighs 187 gm. There is a navy bean-sized, brown, mulberry-like, hard calculus lodged in a minor calyx of the lower pelvis. The renal pelvis is divided into three compartments, the pelvis proper, the upper major calyx, and the lower major calyx. The mucosa of the pelvis proper is thickened, edematous, and stained brown by old blood. The wall of the pelvis is tough, thickened and sclerotic. The upper major calyx forms one large single sac, connected to the pelvis proper by a narrow diverticulum-like opening. The mucosa of the upper calyx appears quite normal.

The lower major calyx is further subdivided into three or four minor calices, in one of which is lodged the calculus.

A large amount of fat and tough fascial striae enclose the kidney hilum and pedicle, showing evidence of peri-renal inflammation. Histological sections show chronic glomeurlo nephritis; parenchymatous degeneration of tubules; slight intertitial changes.

Chronicity of Kidney Disease.—The outstanding features in this case are first, the chronicity; second, the pathogenesis; and third, the method of cure.

This patient gave evidence of urinary disease for fourteen years. The principal symptom was a more or less constant backache and occasional attacks of renal colic. Too often these patients are classed as neurotics. An organic basis usually may be found for the neuroses accompanying such genito-urinary symptoms. In this patient the constant backache was due to the abnormal mobility of a chronically inflamed kidney.

The method of cure in this case may seem a bit radical. We are taught that simple pyelotomy, for stone in the renal pelvis, is the operation of choice. This is true of uncomplicated cases of pelvic stone, but where abnormal mobility or hydronephrosis exists total nephrectomy offers the greater percentage of permanent cure.

Compulsory Health Insurance, State Medicine, Venereal and other free clinics, and many other social uplift schemes requiring the energy and thought of the members of the medical profession are but stepping stones to socialistic medicine, which not only puts individual incentive and practice out of commission but will place the whole public under the rule of inefficiency. Perhaps we hear someone say, "Well, what is to be done?" to which we answer, in the words of the Illinois Medical Journal, "quit giving approval to these various cross-eyed medical uplift schemes advocated by erstwhile reformers and public welfare peddlers who usually see in their schemes some avenue for profit." Some of our medical men who have acquired wealth and social position seem to think that it is quite the proper thing to approve of these various uplift schemes in order to bask in the sunshine of the mighty, forgetting that in the security of their own economical position they are tramping upon the toes of their less fortunate brethren. In reality this "dear public" and "love of humanity" stuff is greatly overworked. (Editorial Notes: The Journal of the Indiana State Medical Association, page 435.)

Medical Peonage in Michigan—Those interested in the developments of socialized medicine should read the press clippings and editorials in the lay and medical journals of Michigan and nearby States. The whole thing makes a sorry story of the harm a few unchained parlor socialists can do when they get control of the policies and practices of a great university. It is to the credit of the good name of Michigan physicians that, in order to carry on its present policies, the State University must import recruits.

TONSILLECTOMY

By LIEUTENANT JOHN W. GREEN,
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The only excuse for further discussion of tonsillectomy, is the continued failure of a great many operators in carrying out a perfected technique which results in complete removal of the tonsil and its capsule, at the same time avoiding postoperative adhesions and contractions, and having a good cosmetic result in the throat. It is much satisfaction to the patient, a year or two after operation, to have it said, "That was a splendid operation," instead of, "In my opinion there are fragments of the tonsil remaining which must be removed." A good, thorough operation should be done much oftener than is accomplished at the present time. After some ten years of effort and constant thought, and for the benefit of those who have not a perfected technique as yet, I will endeavor to set down a few points which may be of material assistance in deciding when and how to operate successfully.

The indications for operation are, chronic tonsillitis, frequent recurring attacks, with or without joint pains, tachycardia, anemia and choreform movements; hypertrophy with difficulty in swallowing, breathing and speaking, chronic eustachian salpingitis, catarrhal otitis media and chronic throat cough.

It is considered necessary to estimate the speed of coagulation of the blood prior to operation, to rule out the various types of bleeder. I firmly believe that anything above six minutes may result in serious hemorrhage, and the patient should be so advised and treated with horse serum, calcium lactate and gelatin for a period of ten days before he comes to operation. It is also considered inadvisable to operate women at or near the time of menstruation. Do not operate during an attack of tonsillitis. The patient may have diphtheria or scarlet fever.

The choice of anesthesia for children is ether, given with a pump and suction machine. This simplifies the technique and saves time. A local anesthetic is preferable in adults. More careful work can be done by this method of anesthesia. You can see at all times just what you are doing. I prefer 1 per cent procaine or novocaine with the addition of three minims of 1-1000 solution of adrenalin chloride to the cc. of anesthetic. In extremely nervous adults a hypodermic injection of morphine and atropine, perhaps supplemented with painting the pharynx and faucial pillars with 10 per cent cocaine solution, and with a little reassurance by the operator, will dispel all their apprehension.

The patient should be prepared for the operation by having received a cathartic the night before and by not having taken food or fluids for six or seven hours. Wash the face with tincture of green soap and follow with 1-3000 bichloride solution. Cover the scalp and body with sterile towel and sheet. The pus basin used for collection of sputum should also be sterilized. The instruments should be properly boiled and the surgeon's hands should be scrubbed and gloves should be worn.

When using a local anesthetic, inject about ¾ cc. in each of three points on each side. Inject behind the anterior pillar, in the supratonsillar fossa, posterior to the anterior pillar at the lower pole of the tonsil and midway between these two points. The depth of the injection should not be over an inch and should not extend through the capsule into the gland. The joints of the syringe, as well as the piston, should be tight to insure proper infiltration of the tissues. By injecting the left side first and later the right side, one can operate immediately upon the left tonsil without pain. In this way no time is lost. It is not necessary to wait fifteen or twenty minutes for complete anesthesia.

The method of choice is dissection and enucleation. Some operators prefer a Sluder, Beck-Sluder or La Force tonsillectome; but I prefer dissection and snare, inasmuch as, with a large amount of scar tissue from former operations or abscesses, all operators are obliged to resort to the dissection method. Care should be taken not to injure the palato-glossus or the palato-pharyngeus muscles.

Start the incision at the junction of the capsule and mucous membrane along the anterior pillar and carry it down to the fossa triangularis, being careful to make it superficial. If the incision is deep, the capsule is opened and dissection becomes very difficult. Use a knife or scissors for the continuation of the dissection. Blunt instruments and force will produce pain. I prefer to use a Betcher tonsil scissors for this work. The instrument has a long handle and a blunt blade curved on the flat. Work close to the capsule, cutting or spreading with the blades in that direction. The scissors will follow the capsule very closely, leaving practically no muscle fibers on the capsule. Where scar tissue is present a much more extensive dissection is necessary than in the uncomplicated case, because the snare may strike the scar and ride over it, deeply in the muscles or pass through the capsule, leaving a part of both tonsil and capsule in the wound. Carry the dissection well down the posterior pillar on its anterior surface and be careful, in putting on the snare, not to include the uvula. Its removal is not serious from an anatomical standpoint, but from the cosmetic angle it is a most serious blunder.

In applying the snare, point the barrel toward the junction of the anterior pillar and the base of the tongue. Both tonsils can be enucleated by this method in from ten to twenty minutes, depending on the conditions. This includes the time spent in infiltrating the tissues. All bleeding points should be caught and ligated with No. 0 plain catgut on a small full-curved needle. Catch the bleeder with a tapering-pointed hemostat. Pass the needle through the muscle just below the point of the hemostat, pass the long ends of the ligature over the hemostat and tie a square knot. Such a ligature will not become untied or slip off.

The use of styptics is not desirable on account of sloughing and secondary hemorrhage. The most common bleeding encountered is in the supratonsillar fossa and is usually venous from the plexus of veins surrounding the gland. Branches of the posterior tonsillar artery, superior tonsillar artery and the anterior tonsillar artery are some-

times cut. There is very little danger of injury to the carotid. Rents in the pillars should be repaired immediately. Be sure to have the incision line (line of the anterior pillar) straight and clean and uniform on the two sides. The height of the incision should be alike on the two sides to have the best cosmetic result.

If you would avoid serious hemorrhage at all times, keep close to the capsule with your dissection. This will also avoid mutilation of the pillars with serious fatiguing adhesions and contractions of the pillars. Undue speed in operating results in hemorrhage and unsatisfactory results. Take your time. The primary incision is the most important and avoid passing through the capsule at this time. When the operation is finished, inspect both the tonsillar fossæ and the tonsils to see that no capsule or gland remains. This will insure favorable criticism when the throat is inspected by the next man who may be called upon to examine the case. It is most embarrassing to have it said that your work must have been that of an amateur.

Following the operation, the patient should be put to bed, without food or drink for at least twelve hours. He should be advised to keep as quiet as he can and not to attempt to clear the throat. An ice collar should be placed about the neck. The following day liquid may be given, and the following day, soft diet. The patient should gargle his throat frequently after the first day until complete healing takes place. As a rule the wounds will heal completely in from ten to fourteen days, in the absence of complications or constitutional disease. In case of mutilation of the pillars, healing will be very slow. In some cases the cervical glands will become infected, but rarely suppurate, and they do not, as a rule, require removal. In such cases, tonics, good food and fresh air will usually effect a cure. About the third day inspection often shows what appears to be a very bad looking wound, due to swelling in the plica triangularis, which is many times covered by follicles of lymphoid tissue. At the time of operation it is well to inspect this area and remove the lymphoid tissue, if necessary. Lung abscess occasionally occurs with local as well as general anesthesia. I know of no way to prevent this accident other than the most scrupulously clean operating. As a rule the voice is improved in strength and quality, and rarely suffers fatigue as the result of a well planned and carefully carried out technique.

In closing, a word should be said with regard to dealing with hemorrhage. Primary hemorrhage will rarely occur if the bleeding vessels are ligated with an anchored suture as described. Provided it cannot be controlled by the above method, a sponge may be sewn between the pillars, but should not be allowed to remain for more than thirty-six hours, for fear of sloughing and infection. Various sorts of tonsil clamps have been devised for control of severe hemorrhage, but they are painful when applied, and also produce sloughing when allowed to remain long in place. The usual treatment for severe hemorrhage has to be resorted to in rare cases—e. g., bandaging of the extremities, raising the foot of the bed, hypodermoclysis, Murphy drip and blood transfusion after typing. Morphine in full doses will relieve the extreme anxiety of the patient. Intravenous injection of iron cacodylate will serve well as a blood builder and tonic following hemorrhage, and assures the patient that you are doing something to speed up his convalescence and recovery.

INADEQUATE PERSONALITY WITH SPECIAL REFERENCE TO ITS INFLUENCE ON BOTH DIAGNOSIS AND TREATMENT

By ROSS MOORE, M. D., Los Angeles.

Someone said or wrote, "There is nothing so real as the imagination." He meant the same thing the other sage did, who said, "Nothing ever exists except first in the imagination."

This paper does not deal with things of the imagination but does seek to make real a phase of diagnosis and therapeutics that is considered by many busy practitioners so unreal as to be almost imaginary. We are at a sort of turning point in the practice of the healing art. The profession is gradually realizing that the man whose eye is glued to the eyepiece of the microscope is not in the position of most usefulness to a suffering humanity.

It is a worthwhile task for the Neuropsychiatrist to help the profession in its efforts to practice good healing. This can best be done by insistence on that idea so well expressed in the last line of an old poem:

"'Tis not the body but the man is ill."

This means the study of personality in its relationship to disease.

My thesis is this: Symptoms and symptom complexes may be due not only to organic and functional causes, but also to what might be called temperamental causes. Surgeons naturally tend to believe in the organic basis of most symptoms. Frequently before and occasionally after operation they admit that seemingly organic symptoms may have had a functional basis. Physicians more readily agree that functional causes may be responsible for symptoms and symptom complexes that look decidedly organic. The daily experience of Neuropsychiatrists leads them to add "Temperament" to these other two sources of symptoms, thus completing an etiological trio in my opinion capable of including all disease manifestations. In psychiatry this etiological temperament is spoken of as "psychopathic personality." A more inclusive term to designate what I have in mind is, "inadequate personality." The word "inadequate" almost exactly expresses my concept of this personality. It is an etiological rather than pathological personality. It includes all types of personality likely to give rise to symptoms, but should not be applied to the feeble-minded.

If I succeed in elucidating my thesis by proving that temperament should be equally considered as a cause of disease alongside of the functional and organic causes, then a corollary appears; viz. that,

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whatever symptomatology is actually due to the inadequate temperament must be considered as being permanent.

Temperament is just as inborn and fixed as the color of one's eyes or the length of one's nose. Symptoms due to temperament should not be called symptoms, but characteristics.

This paper is written to call attention to some of the types of inadequate personality, so that the therapy of general practice may be directed away from an effort to cure characteristics. These characteristics are to be brought to the attention of the patient in their true form so that he may adjust himself to considering them as permanent handicaps, and therefore not be irritated by their presence but rather learn to ignore them in his program through life.

Speaking generally, the personality of an individual may be inadequate in four ways: (1) physical, (2) neural, (3) moral, (4) emotional. A given individual may exhibit one or a combination of these types.

The psysical type of the inadequate exhibits in his physical makeup an unbalance so extensive as to make him unfit to cope with physical emergencies. He may be small and slight of build or tall and very slender. He frequently has abnormally small hands and feet, as if nature realized the sorry joke she was perpetrating when she allowed the individual to be born, and tried thus to mark him a parasite and not a worker. This physical type has been quite well recognized for a long time. He is, therefore, less misunderstood by his hurrying fellow humans, and his busy physicians. Physical inadequacy is found associated with neural and emotional inadequacy very frequently. Probably less frequent with moral.

The neural inadequate turned up frequently in the work of the neuropsychiatrist in the army both in this country and France. I personally came to the conclusion that he was the one particular type of the inadequate whom I felt must be kept from front line service. He is usually bright, smart and active both mentally and physically, but with little reserve. He is parallel in his neural makeup to the person whose mind or intellect is characterized by the term "shallow." Superficial observation would not lead to the detection of his actual inadequacy, because he learns to camouflage it by a show of transient vigor, much as the shallow intellect can cover itself by a temporary show of brilliancy.

The moral inadequate is the individual who stopped his human or civilized development at the period in life when it is said that a child is inherently cruel. He has modified his outlook on life only as much as is necessary to keep him from getting into uncomfortable situations. He cannot sense what is meant by altruism. He is a curious combination of thoughtless impulsiveness with carelessness of consequences.

The emotional inadequate is very difficult to describe. He is not necessarily emotionally unstable and may even appear emotionally barren. His type merges quite insensibly into that of the repressed individual—the unfortunate who has had emotional sterility thrust upon him. Indeed it is quite to be expected that the emotional inadequate will come of repressed parentage and, therefore, will be both temperamentally and developmentally inadequate. The experiences of life will have more influence on this person than on any of the other types of inadequacy. Whereas the neural inadequate will usually react very quickly to his surroundings, the emotional type may do the same or apparently not react at all. Nevertheless, his emotional reaction to his experiences and his suroundings is going on deep within him and inexorably produces a pathological personality later on because of that immobility which is inborn.

I have suggested these four types for purposes of description. They seldom exist in pure form. Whether they are pure or all mixed together in a given case is quite immaterial, providing it is recognized that they actually do exist. Inherent or inborn inadequacy being established, it remains for the therapist to manage his patient, his patient's friends, and the general surroundings and conditions so that these characteristics of inadequacy are adjusted for rather than an attempt made to remove them. The above presentation is totally incomplete and is designed simply to be suggestive.

CASE REPORT

A case in point. Unmarried girl, twenty-two. Physically small. Small unused hands. Father, a quiet, reserved successful business man, who knows how to work, but not how to play. Mother physically inadequate and repressed. Patient developed cardiac lesion at twelve years of age. Has been an invalid ever since. Dabbled a little in art, and has read widely in field of romance. Has very good taste, uses good English, and is very pretty and attractive. Considers herself a hopeless invalid and, therefore, has no outlook on the future. Romances about life and marriage, but does not look upon any young man as attainable in the way of a husband for herself.

Here is a combination of physical, emotional and neural inadequacy, with the added handicap of maternal repression and insistence on the fact of invalidism.

It was determined that the cardiac condition was negligible. It remained to determine how much of the residual symptomatology was temperamental and permanent, and how much was due to maternal inadequacy and the inevitable introspection of the shut-in. Some months of therapeutic effort sufficed to clear up most of the symptomatology due to these latter causes. The result was that the patient began to fearlessly ask questions about life and sex, and self; began to think and act for herself; began to make a place for herself in society; began to attract the young men—in short, is approaching a condition that should be considered normal for her. She had gone along for several years having medicine given her for her heart, being curetted, being sanitariumed, and being invalided, because an effort was being made to correct the whole clinical picture.

If this concept of inadequacy had been in the minds of her physicians, they would have made this differentiation between removable and irremovable symptoms; would have cleared up the former,

and helped the patient to adjust her life so that the latter would be the least possible handicap.

CONCLUSIONS

1. There is such a thing as inadequate personality.

2. It is congenital and irrecoverable.

3. It manifests itself in the physical, neural, moral, and emotional parts of human nature.

4. It gives rise to symptoms which may simulate closely those of organic or functional disease and which may be mistaken for evidence of the latter.

5. It is usually associated with acquired illness.

6. When it is so associated all therapeutic effort aimed at relieving symptoms caused by it will end in disaster.

7. When its presence is recognized and taken into therapeutic consideration much improvement can be brought about in the patient.

8. Its presence will be determined by careful consideration of the history of the patient rather than by examination.

9. The history necessary for diagnosis does not relate to previous illnesses sustained, but to the reaction of the patient to his environment and all data capable of giving a true estimate of that intangible thing called personality.

THE SPECIALIST AND HIS OBLIGATION TO THE PROFESSION *

* Chairman's address before Urological Section,

By GEORGE G. REINLE, M. D., Oakland

As members of the medical profession we hold an unusual position in the social structure and we have an obligation to render our best service to the public. We stand in the generally accepted position of mentors and advisors in matters pertaining to health. Less generally recognized, however, and of much the same character, is the obligation of the specialist to the balance of the medical profession. As the public has conferred upon the whole profession certain privileges and exemptions which must be repaid by a special regard, so has the profession permitted the specialist certain exemptions and is, in return, entitled to even greater considerations.

I should like at this time to call your attention to some of those things about which you have all thought, and upon which you all entertain well-developed ideas, which, unfortunately, you either keep to yourselves or express only in private. I have reference to those obligations which the specialist owes to the profession, and, conversely, what the specialist should expect from the profession in general.

Specialists are prone to be critical in their views, and intemperate in the expression of their opinions, concerning the character of the work accomplished by men doing both general medicine and general surgery. Not infrequently we hear complaint that cases which drift to the specialist have been treated overlong and inappropriately by those unprepared to render the proper service. This fault applies to specialists in every line. The oculist inveighs against the neglected case of tracoma which has lapsed into hopelessness, and he also has other things to which he takes exception, more or less privately, or to lay friends. The aurist bewails the palliative treatment of running ears, which come to him as acute mastoiditis. The urologist finds fault with infected kidneys, tubercular and otherwise, which have been treated by useless bladder irrigations, urotropin and probably vaccines. The urologist also has numerous other faults to find with the management of patients whom he feels should have been treated differently or correctly diagnosed at an earlier date.

These fault-findings are not entirely just. If the patients whom a specialist should have seen, either in consultation or directly, are not brought to his attention at the preferred time, the fault lies with the specialist himself, and should feel rather acutely that he has been remiss in one of the principal debts he owes to the profession. The specialist has neglected to convey to his colleagues the cardinal indications for consultation. It may be argued that the indications are well known, that text books point out where specialized skill or knowledge should be made available. This plea is insufficient. One needs but to recall the fact that the volume of medical literature is very great, that the important is so closely interwoven with the relatively less important that not infrequently only the specialist himself can say what is vital and what is not.

What is needed is that the specialist be a propagandist—a special pleader—not for himself, nor his profession, but for humanity. Most of the writings of medical men are addressed to the group doing the same type of work as themselves. What is needed is that the specialist address himself to the profession, writing and speaking, not about the unusual, but about such commonplaces as stone in the bladder, stone in the kidney and tubercular kidney. His literature, addressed to the profession at large, should be instructive, warning of the dangers possibly lying back of a frequency of urination, of certain microscopic urinary findings, and so forth.

These articles should indulge in plain speaking. No harm can be done, and good will result from articles couched in terms of humanity, rather than in the somewhat less startling terms of science.

There are many reasons why men in general practice treat patients which in their very nature require special skill, and most of these reasons are not selfish. Consider that nearly every individual or family has an acquaintance with some medical man. The patient presents himself with frequency, because of pyurea or some other urological symptom. The matter may not be looked upon by the patient as being of particular importance. The physician, untrained in the significance of the symptoms, and through years of experience having reached the conclusion that the majority of human ailments are transitory anyway, hopes for a passing of the trouble, resorts to some innoxious palliative treatment. The patient who does not realize the difference between the significant and the trivial may insist upon con-

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tinued treatment by the physician of his choice. The matter *may* be of practically no importance, and again it may be of the gravest importance. That the differentiation is not made is solely the fault of the specialist. The specialist should have impressed upon the profession at large the high lights of his specialty, as, for example, a manufacturer of automobiles impresses upon the general public the selling points of his machine.

Another obligation the specialist owes to the profession is to unmistakably convey the idea that the referred patient is at all times the patient of the medical man referring the case. At no time nor under any circumstances is the patient the specialist's patient, except for the condition pertaining to his specialty, and then only by the positively expressed wishes of the colleague who referred the case. If a case is sent to a specialist for examination, professional courtesy and even common decency demand that the patient, after an examination, be referred back to the original physician. Let it be the referring physician's right to suggest to the patient that he avail himself of the specialist's further services.

If a specialist is treating a patient and a member of his family consults the specialist, the patient should be directed to consult the physician through whom the specialist made his contact with the individual or family. That the specialist may consider someone else more competent, does not alter this conclusion. All specialists realize this and the majority adhere to our established ethics upon the point. However, I fear we have not made our stand in this matter absolutely clear and unmistakable to the profession at large.

We have dwelt somewhat upon our obligations, but, as in all affairs of life, these obligations are more or less reciprocal. What are the obligations of the internist and the surgeon to the specialist? To the specialist the general practitioner owes nothing except courtesy, but his duty to the public should oblige him to seek the specialist's assistance in those cases which in his heart he feels are not receiving from him the best that may be had.

The physician and the surgeon owe it to the patient and to themselves to take advantage of counsel with the urologist in every case of doubt. Suprarenal abscess, for example, may not uncommonly be diagnosed only after pyelograms. Diagnosis of ureteral calculi, renal calculi and even vesical calculi cannot be made with certainly without a urological examination. Kidney infections with colon bacilli, any of the cocci or bacillus tuberculosis, require and are entitled to receive a complete urological examination.

Your attention is invited to the interesting figures so ably presented by Dr. Cecil, regarding various kidney conditions erroneously diagnosed as something else. Out of a series of three hundred cases investigated, Cecil reported thirteen cases who went to operation for appendectomies, gall-bladder drainage and other abdominal conditions suspected but not demonstrated. He reports eight cases the diagnosis of which was erroneous but which did not go to operation; these mostly suspected appendicitis. A competent urological examination would have prevented these unfortunate mistakes.

From the surgeon's standpoint it is humiliating, and from the patient's point of view it is discouraging to be operated upon for a trouble not found to exist. It is such things that make patients doubt and distrust the profession. The surgeon has no right to damage the reputation of himself and his fellows by neglecting to avail himself of timely counsel. To the end that he may have no excuse that he does not know when this counsel should be sought, it is for the urologist to impress upon the whole profession the indisputable fact that pyurea, hematuria, and pains, whether of the presumably renal type or abdominal or gastric, should be, so nearly as is humanly possible, accounted for before resorting to surgery.

To the physician we must protest that vaccines alone are not an infallible cure for kidney infections, nor are they, unsupported by ureteral catheterization and lavage of kidney pelvis and ureter, ever to be depended upon as a sole therapeutic means. To the physician, also, we must protest emphatically that ureteral catheterization is *not* the cause of kidney infections, and that the physician who counsels against it with no better argument than this, reflects scant credit upon himself as not being conversant with the best of modern opinion supported by the results of research.

In closing, I repeat that the urologist and every other specialist as well has done much less than his duty to his profession and to the public when he fails to keep before the minds of his colleagues the things about which they must not waver.

A REPORT OF THE WORK OF THE RADIUM DEPARTMENT OF THE UNIVERSITY OF CALIFORNIA HOSPITAL, BETWEEN APRIL, 1920, AND APRIL, 1921.

By LAURENCE R. TAUSSIG, M. D., San Francisco,
Director of the Radium Laboratory of
the University of California

The purpose of this report is to place before the members of the medical profession a brief account of the policies and activities of the radium department during the year following the installation of a radium emanation plant at the University of California Hospital. In the early part of 1920 an order was placed by the University for an amount of radium sufficient to bring the total supply up to about 650 milligrams. At the same time a plant for the purification and tubing of the emanation was ordered. This plant was put in operation with a little over 600 milligrams of radium element in solution early in April and has been operating steadily ever since except for a few shutdowns to remedy minor breakages.

When the emanation plant was installed it was thought by a number of medical men that the supply of emanation would be practically unlimited and that it would make radioactive applicators available to anyone desiring them. This, of course, is not true. The amount of emanation on hand at any one time cannot exceed in activity the amount of radium in solution, and for a number of reasons, this maximum is never reached. It would be unwise to diminish the total amount available by the outright sale of any of the tubes. The Radium Committee decided that it should be applied only under the supervision of a member of the radium staff, in order, insofar as possible, to insure the best results. Clinic and ward patients, treated at hospitals affiliated with the University, are charged according to their circumstances. This charge is set by the social service department after appropriate investigation. Many of these patients receive treatment gratis. Private patients, either in the University Hospitals, or in other hospitals, are treated only in consultation with a member of the radium staff and are charged a definite fee according to the amount of emanation used. Private cases which are sent from medical men out of town are treated according to the indications as determined by any further examination deemed advisable and are referred back to the physicians sending them with suggestions for the after treatment as well as an account of the findings and methods of treatment employed. It is the policy of the department to answer inquiries from members of the profession as to the suitability of specific cases for radium therapy as definitely as possible. It is hoped that physicians, whether they possess radium of their own or not, will not hesitate to inquire about points in technique. Furthermore, visitors are always welcome to inspect any part of the work which interests them.

It is not the purpose of this report to go into the technique of the application of radium. In the future, as data accumulates and definite conclusions can be reached in the light of carefully kept records, papers will be published, detailing technique and results in specific groups of cases. At present the number of cases treated during the year will be given, with a general statement of the results obtained in each group. Insufficient time has elapsed to attempt to classify the end results because the majority of these cases are of malignancy.

Basal Celled Epithelioma—91 cases. The results in this type of malignancy continue to be eminently satisfactory. Radium therapy is especially satisfactory in the more difficult cases, particularly in those located at the canthi or on the lids of the eyes. The very extensive and long standing cases of this variety of epithelioma can also usually be improved if not cured.

Squamous Celled Epithelioma (of the glabrous skin)—20 cases. The primary lesion can usually be healed at least temporarily if not too extensive or if it has not been previously treated. Metastases in these cases are frequent and the end result in a given case is therefore in doubt for some time after finishing radium treatment.

Carcinoma of the Lip—15 cases. These cases have only recently been submitted to radium therapy. So far the results have been very encouraging. Radium should be combined with surgery and X-ray in many of them in preventing and in treating cervical metastases.

Carcinoma of the Mouth (exclusive of carcinoma of the tongue)—25 cases. When the lesion is not too extensive, a marked improvement can be obtained in some of these cases. The technique of treating mouth cases is changing and with the availability of the emanation the results have been improved.

Carcinoma of the Tongue—17 cases. Most of these were advanced cases. In the earlier cases the healing of the tongue lesion is the rule and even in late cases judicious therapy often effected considerable palliation. The main problem is the handling of metastases.

Carcinoma of the Oesophagus—5 cases. Improvement can be obtained in nearly all of these cases by the combination of the X-ray and radium therapy. This improvement consists in temporary relief of dysphagia, pain and cough with gain in weight and strength.

Carcinoma of the Cervix—38 cases. Radium is of benefit in all but very extensive cases and recurrences. Post-operative radium therapy has been abandoned.

Lymphosarcoma—7 cases. Radium in these cases is superior to X-ray only when the tonsils are involved or the growth is of limited extent. Temporary relief is usual, though recurrences generally occur.

Sarcoma—16 cases. Rapidly growing sarcomata react quickly to radium therapy, but recurrence follows a brief period of quiescence in most of them.

Keloid—4 cases. All but long standing cases can be greatly benefited.

Keratosis of the Lip—8 cases. These are potential carcinomata and should be treated as very superficial malignancy. Radium has proven very satisfactory.

Lupus Erythematosus—10 cases. In the chronic discoid type of this disease radium is often of considerable benefit.

Lupus Vulgaris—5 cases. No other form of therapy surpasses radium in treating even extensive and long standing cases of this disease.

Vascular Nevus—19 cases. In the raised type a good cosmetic result is the rule, but in the flat port wine stain type a slight paling is all that can be hoped for.

Verrucæ—5 cases. In certain regions radium is the treatment of choice. This applies particularly to those near the finger nail and to verruca plantaris between the toes.

Grave's Disease—11 cases. The result is earlier and more marked than in any other form of therapy. Whether the effect is permanent or not cannot yet be stated. Radium is not suitable in treating toxic adenomas.

Incipient Cataracts—60 cases. A large percentage of these have been given improved vision. Radium is useless in mature cataracts.

Miscellaneous—56 cases. This includes the cases which do not fall into any of the above groups, and in which the treatment with radium has been more or less experimental.

Thus 420 cases of various types have been treated during the year and though many of them are of the most hopeless in the realm of medicine, the results have been encouraging. New fields are being opened to radiotherapy by changing methods and improvements in technique are leading to better results. The use of the emanation instead of radium element has proven eminently satisfactory. The advantages far outweigh the few disadvantages and make the use of emanation preferable.

Hotels as Doctors of Nutrition—Press dispatches are making much of the entrance of hotels, cafeterias, restaurants and similar places into the practice of medicine. The "scientific diet service" is now a feature of a number of prominent hotels. All one is required to do is to look down the special menu, pick out his own diagnosis and, presto, the proper diet for that disease is available! Some of the Eastern cities also now have "healtheterias," devoting themselves exclusively to the "scientific feeding of the undernourished" and those suffering from chronic diseases. Many of them are paying particular attention to the undernutrition of children as a specialty. Some of them advertise their expert medical advice in electric-light signs at night.

With the statistics by "food specialists" showing that the majority of our people, and particularly of our children, are undernourished and suffering from various grades of starvation, these scientific (?) nutrition institutes ought to do a flourishing business during the ephemeral existence of this particular and exceedingly foolish fad.

STRICTURE OF THE URETHRA IN WOMEN *

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Stricture of the urethra in women is a condition which is very often overlooked, although it may be responsible for marked functional and organic disturbances in the genito-urinary tract of this sex. While the kidneys, ureters and bladder are usually carefully investigated in the presence of symptoms referable to the genito-urinary tract, examination of the urethra is frequently omitted, and consequently pathological lesions of this important organ are neglected.

This is probably due to the generally accepted idea that strictures of the female urethra are very uncommon. While this is true so far as the lumen of the canal is concerned, strictures at the meatus on the other hand are frequently encountered.

Dilatation of the urethra has long been an empirical treatment for urinary disturbances and every urologist has noticed the marked symptomatic improvement that sometimes follows the single introduction of a cystoscope or ureteral catheter. Impressed by the frequency with which this occurred, I decided to examine the urethra more thoroughly, and consequently, in addition to endoscopy, have made it a practice to calibrate this organ in all women, as well as in men, who complain of urinary symptoms. Including strictures of the meatus, which are much more numerous than those in the lumen of the canal, the results were most interesting, the number far exceeding expectations.

In reviewing the literature, I found that many years ago, Skene, in his interesting book on "Diseases of the Bladder and Urethra in Women" said, "the form of stricture that will most often come under your consideration will be a contraction of the meatus urinarius, produced in many cases by too liberal use of caustics in the treatment of abnormal growths at the lower end of the urethra, or from vulvitis." The vulvitis to which he refers was probably gonorrheal in origin for, as we now know, the urethra is involved in almost all cases of this infection.

A few years later at the forty-first annual meeting of the American Medical Association, Van de Warker, in calling attention to strictures of the urethra in women said, "the form of stricture I have most frequently met with, and one that produces the most acute symptoms, is the annular stricture of the meatus." With the exception of the latter's paper in 1890, I have been able to find but one important contribution to this subject, that of Maurice Vilfroys in 1914, since it was first mentioned by Lisfranc about one hundred years ago.

Heinrichsdorff recently reported a case in which death occurred, following catheterization of the bladder in a woman sixty-five years of age who had complained of involuntary dribbling of urine

* Read before the Fiftieth Annual Meeting of the Medical Society of the State of California, Coronado, May, 1921.

and difficult urination for one year. Necropsy revealed that the urethra in its proximal third was so constricted that only small sounds could be passed. The wall of the neck of the bladder was hard and much thickened. The bladder itself was extremely large, the wall was stiff, and in places a centimeter thick. In some places the bladder wall was thin and protruded outward. Both ureters were thick as a finger, tortuous and filled with a purulent fluid. The kidneys were enlarged and very soft, studded with small abscesses, very little normal tissue remaining. The condition was thus due to stenosis of the upper urethra, which had entailed retention and stagnation of urine and dilatation of the superior urinary passages, followed by their infection and a suppurative process throughout the kidneys.

Herman, of London, following the examination of fifty-five women without urinary symptoms, concluded that the normal size of the female urethra is F 29, a little less than ten millimeters. Van de Warker expressed the opinion that a urethra from F 23 to F 28 should be considered normal. Examination of 114 patients at the Stanford Women's Clinic disclosed the fact that only 18 or about 16 per cent had never suffered from symptoms referable to the urinary tract. Following urethral calibration in these eighteen cases, I found the average size of their urethra to be F 26 or a little less than nine millimeters. My opinion is that a urethra below this size is usually abnormal, and the response to treatment has justified this conclusion. In the series of pathological cases upon which my observations have been based, the average size of the stricture was F 22. The smallest would not admit a filiform.

The youngest patient was three, and the oldest sixty-nine years of age, the average being forty-four years.

My patients have been divided into three classes, prostitutes confined in a special ward at the San Francisco County Hospital, clinic patients seen at the Stanford Women's Clinic, Mount Zion Hospital Clinic and San Francisco Polyclinic and private patients. As practically all of the first class had at some time suffered from gonorrhea, the significance of this infection as a factor in the etiology of strictures could be determined. In fact, the meatal strictures occurring in prostitutes exceeded that found in clinic patients by eleven per cent, and in private patients by twenty per cent. It is, therefore, apparent that Neisser infection is the most important etiological factor in strictures occurring at or just within the meatus. Other causes of obstruction at this location are congenital malformation, contraction following the traumatism resulting from childbirth, ulceration, caustic applications and operative procedures. I have not been able to satisfy myself that focal infections, as suggested by Hunner, have any bearing upon the etiology of this condition. Strictures of the lumen of the canal, which are usually due to traumatism associated with childbirth, are as infrequent in prostitutes as in other classes of patients. This is to be expected, as the female urethra, with the exception of its few ducts and glands, is, like the membranous portion of the male urethra, lined with squamous epithelium, and consequently resistant to all forms of infection.

COMPLICATIONS

Hunner found urethral stricture in eighty-five per cent of his patients suffering from stricture of the ureter. From the fact that most of our cases cleared up under local treatment of the urethra, the conclusion is drawn that the majority of urethral strictures on the other hand, are not complicated by stricture of the ureter. A note should be made, however, of the fact that two of our youngest patients, girls eight years of age, suffered from both ureteral and urethral strictures.

The most frequent complications are urethritis and trigonitis, and one or both of these conditions were present in eighty-three per cent of the cases in this series. The fact has long been recognized that stricture or obstruction from any cause predisposes to infection higher up in the urinary tract. Pus was found in eighty-five per cent of the catheterized specimens of bladder urine in these cases.

SYMPTOMS

As the female bladder is especially sensitive to reflex influences, marked subjective symptoms are often produced by comparatively slight obstructions. It must be remembered, however, that these symptoms may be partly due to the accompanying urethritis or trigonitis.

Frequent urination is the most common symptom of which these patients complain. It was seldom absent, occurring in over eighty-five per cent of our clinic and private cases. Subjective symptomatology was not taken into consideration in the patients confined in the detention ward of the San Francisco Hospital, as many of these deny disability, hoping to be released as soon as possible.

Next to frequent urination, these patients most often complain of pain, which is referred to the urethral or bladder regions. This symptom occurred in sixty-four per cent of our cases. Burning or smarting was present in twenty-six per cent, urgency in five per cent, and difficulty, constant desire to urinate, partial incontinence, dribbling and retention of urine, were each present in two and a half per cent of our patients. Residual urine is seldom found except in the presence of very tight strictures.

DIAGNOSIS

The diagnosis of stricture is best made by means of the olive-tipped bougie. A urethrotome, or sound, is much less reliable, as strictures of the female urethra usually yield readily to slight pressure, and consequently higher readings result from use of the latter instruments.

TREATMENT

The majority of urethral strictures should be treated by means of gradual dilatation, absorption of the constricting exudate being best promoted by this procedure. In the presence of scar tissue, however, meatotomy, internal urethrotomy or external urethrotomy with resection of

this scar tissue is often indicated. Using the French scale of measurement, a straight sound of the same size as the stricture is introduced. The sounds are increased two numbers at each treatment until an F 30 passes without difficulty. Following the withdrawal of the sound a few cc. of one to three per cent silver nitrate solution are injected into the bladder and urethra. At first treatments are given twice a week, but the interval is gradually lengthened to once a month and then may be discontinued. Preceding dilatation the use of a local anæsthetic such as a ten per cent cocaine solution on a cotton-tipped applicator is sometimes advisable in nervous women.

The symptoms improve, as a rule, after two and disappear after five dilatations, recurrence being very unusual if treatment is not too abruptly discontinued.

The following brief case histories, two of stricture at the urethral meati, and the other of both the lumen of the canal and the meatus are typical of many which have come under my observation.

Case I.—Married woman, age fifty-two, housewife, nullipara, complains of frequent urination, that the urine escapes slowly and that dribbling is usually present. The symptoms began three months ago and are gradually increasing in severity. She denies Neisser infection and gives no history of previous genito-urinary symptoms. A catheterized specimen of bladder urine contains an occasional pus cell. The olive-tipped bougie encounters a stricture, F 20 in size, at the external urethral meatus. Following two treatments which consisted of dilatation with straight urethral sounds, followed by the instillation of one per cent silver nitrate solution the symptoms had markedly improved. The symptoms disappeared after the third treatment.

Case II.—Married woman, forty-five years of age, housewife, the mother of nine children, complains of burning in the urethra, worse at the beginning of urination, and nocturia. Her past history and family history are of no significance.

The present illness began shortly after her first confinement twenty-one years ago with burning, stabbing pain worse at the beginning of urination. She has had attacks of difficult urination, at which times the urine escaped drop by drop. The symptoms have been worse since her eighth confinement nine years ago. Ten months ago she suffered from retention of urine for three days. She was taken to the hospital, where a growth was removed from the meatus and the urethra dilated with sounds at intervals for one month. All symptoms except the burning sensation disappeared and she did not come to the clinic for further treatment as requested. Three days ago micturation again became difficult, the urine escaping in drops. She states that some relief was obtained in a few hours by the application of hot compresses to the vulva.

Examination disclosed a stricture just inside the meatus through which an F 12 glass catheter could be introduced with difficulty, and another stricture of slightly larger caliber in the posterior third of the urethra. Scar tissue resulting from childbirth was responsible for both strictures. Residual urine amounting to 60 cc. was present. Because of the nature of the obstruction, the small caliber of the strictures and the pain caused by instrumentation, meatotomy and internal urethrotomy were deemed advisable. All symptoms disappeared following these operations.

Case III.—Female child, three years of age, complains of frequent urination and pain in the region of the bladder of one month's duration.

A number five ureteral catheter was passed with difficulty because of a stricture at the external urethral meatus. The catheterized specimen of bladder urine contained a few pus cells. Culture showed non-hemolytic streptococci. The symptoms improved after the second and disappeared after the fourth dilatation of the urethra.

CONCLUSIONS

Stricture of the female urethra is relatively common, and consequently calibration of this organ should be a part of the urological examination of every woman and child complaining of symptoms referable to the genito-urinary tract.

Strictures of the female urethra respond readily to proper treatment, and their early detection will prevent pathological lesions of the upper urinary tract secondary to this condition.

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PRE-ATAXIC GASTRIC CRISES OF TABES *

By CLYDE FISHBAUGH, A. M., M. D., Los Angeles, Cal.

Because of the frequent mistakes in diagnoses and numerous unnecessary operations on patients with pre-ataxic gastric crises, it seems opportune to present this subject at this time. Neurologists are alive to the frequency of this condition and, doubtlessly, fail to recognize very few cases, but physicians and surgeons have all found early stomach crises an easy pitfall.

Nuzum,[1] in a review of one thousand patients at the Cook County Hospital, Chicago, noted that visceral crises of tabes was observed in 22 per cent of the cases. Of the 22 per cent, 19 per cent were of the gastric type, 2 per cent renal, and 1 per cent intestinal. Erb[2] found visceral crises ten times in 400 cases, and Fournier,[3] fifteen times in 210 cases.

In reports of these large groups of cases, the pre-ataxic have not been differentiated from the ataxic form. It is the purpose of this communication to consider only that form of gastric crises noted in pre-ataxic patients. The diagnosis is easy in ataxic patients, as other features of tabes are in evidence. The frequency of incorrect diagnosis of gastric crises in all stages of tabes is emphasized by Nuzum,[1] who observed that 87 per cent of the 220 patients had been operated upon unnecessarily. Of this number, eighteen were operated upon for gastric ulcer, sixteen for gall stones or cholecystitis, seventeen for appendicitis, eleven for prostatitis, six for renal colic, five for post-operative adhesions, one each for cauda equina, meningocele, ectopic gestation, peritonitis, and nine operations were exploratory.

The following cases illustrate the great diversity of symptoms, findings and diagnoses encountered in the study of this manifestation of spinal syphilis.

Case No. 1.—An actor, 38 years old, complaining of stomach trouble. About fifteen years ago the patient began to have very severe, dull, heavy pain in the abdomen. Pain would come on during

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or right after a meal, and was not accompanied by nausea or vomiting. The attacks would last from one-half to one hour and then gradually wear away. There has never been any special soreness in his abdomen. Occasionally he would be completely free of symptoms two or three years. All of a sudden the trouble would return and the attacks would continue daily for three, four or five years. The last series of attacks started two years ago. Pain frequent after dinner; rare after breakfast or luncheon. Pain has been so severe at times that he has required an opiate for relief. He has never awakened in the night with pain. Recently has vomited food eaten a short time before, but vomitus contained no blood.

Complains of slight dryness in his nose, and at times a slight hacking cough. The appetite has been poor for five or six years. Bowels usually constipated. Has been married thirteen years. Wife in good health; no pregnancies. There is history of a chancre seventeen years ago, followed two or three months later by a rash and ulcers in his mouth. Following the rash the skin pealed off the palms and the soles. He was treated with mercury and iodide for about one year. His weight was 154 in 1900, and is now 127 pounds.

Physical Examination.—Rather poorly nourished man; pupils slightly irregular, react slowly to light, but actively to accommodation. The palpable lymphatics are small and shotty. No abnormalities found in special examination or laboratory tests of the heart, lungs, abdomen, rectum, tonsory system, urine, blood, feces or reflexes.

The Wassermann reaction was negative from the blood, but very strongly positive from the spinal fluid.

Case II.—Moving picture actor, age 38, weighing 252 pounds, complains of pain in the pit of the stomach and vomiting. About fifteen years ago he had severe gripping pain in the pit of his stomach, which came on suddenly and was continuous for two weeks. There was no nausea or vomiting. There was soreness on pressure. Since that time the patient has had repeated attacks of similar nature lasting ten to fourteen days. There have been intervals of several months' freedom between attacks on numerous occasions. He had been free from attacks for two years until three days ago, when he had an exceedingly severe pain, not relieved by food. He has vomited green, sour phlegm many times daily since the onset. Black stools have not been noticed, and sodium bicarbonate causes him to belch, but does not relieve the pain. He has awakened at night with the pain. Bowels are regular.

The patient has been married for eight years. Wife is living and well, and has not been pregnant.

Physical Examination.—The pupils are slightly irregular in outline, but reacted sluggishly to light and actively to accommodation. There is a rather marked tenderness three or four inches above the umbilicus in the median line. The knee kicks are rather sluggish. Rhomberg negative. No abnormalities are found by physical examination or laboratory tests of the sensory system, gastro intestinal, or urine. Wassermann reaction of blood showed a single plus and the spinal fluid gave a four plus.

Case III.—Mechanic, age 34, complains of pain in the abdomen, nausea and vomiting. The patient was perfectly well and strong until six years ago, when after having a bowel movement, was taken with very severe pain in the upper part of his abdomen, followed by nausea and vomiting. A physician was called, who stated that he was having an attack of gall stones. The following day operation was performed, but no gall stones found. Shortly after his return from the hospital he had another attack similar to the one above described. The patient has always associated these attacks with overeating or too much laxative. The attacks last for a day or two and are followed by a few days of rest. Another physician diagnosed his condition as chronic appendicitis. The appendix was removed, but the attacks continued to occur as frequently as previously. Some years later a surgeon performed an exploratory coelectomy, but found nothing wrong. Since the last operation, has had attacks at varying intervals, from a few days to a few weeks. For the last two weeks the attacks have been of daily occurrence, usually coming in the after part of the day, so severe that morphine was necessary for relief. The pain starts in the pit of the stomach, and is soon followed by violent vomiting which continues until relieved by an opiate. At times he has vomited black blood, but has never had black stools. Following the first operation, the patient was given some medicine by mouth for the pain. After taking it a short time he noted that his pupils were dilated, one of which never contracted to normal. The left has remained somewhat larger than the right.

The patient has been married for three months. He had gonorrhoea fifteen years ago which was cured in a week's time. He gives a negative history of syphylis.

Physical Examination.—Fairly well nourished man, about twenty pounds under weight. The pupils are irregular in size and shape. Both react slightly to light and promptly to accommodation; eyegrounds were negative. There is slight tenderness in the epigastrium, otherwise the abdomen is negative. Rhomberg sign is negative; patient reflex positive on re-enforcement; urine, negative; blood, negative; stool, normal; Rehfuss test breakfast, normal; X-ray examination said to be normal; and sensory examination normal; Wassermann test, blood one plus. Spinal fluid four plus.

Case IV.—Man, age 42, complains of pain in the stomach and vomiting. Four years ago patient suffered from exceedingly severe pain in the pit of the stomach, shooting upwards to the shoulder. The pain did not radiate to the back. At the onset, vomited bile with each attack of pain. The first attack lasted one month or so. He felt good for two or three months and then had another attack. The pain came without any apparent warning and left rather suddenly. Vomiting was followed by slight, temporary relief. Food did not relieve the pain. While being observed in a hospital, he vomited blood repeatedly and on October 22, 1916, gastro enterostomy was performed for a mistaken diagnosis of ulcer of the stomach. Soon after leaving the hospital he had another attack. One year later the patient consulted another surgeon, who removed the gall bladder and later the appendix with no apparent benefit. The patient returned to work and would work a month or so and then be compelled to stop for a few weeks because of an attack. The last attack started three weeks ago. He has very severe pain in the abdomen, chest and across the shoulder blade. Anything he eats is vomited in ten or fifteen minutes, bitter and yellow. He has soreness in his abdomen. The pain is a sharp, gnawing pain, never stopping. Massage of the stomach gives no relief. Baking soda affords some relief. Bowels have always been regular.

The patient has a wife and four children, all living and well. Syphilis and gonorrhoea are denied, and the wife has had no miscarriages.

Physical Examination.—The patient is fourteen pounds under weight. The pupils are slightly irregular and react sluggishly to light, but actively to distance. There is slight tenderness over the entire abdomen, more marked in the epigastrium. The knee kicks are obtained on re-enforcement; Rhomberg reflex, normal; sensory examination, negative; blood count, normal; and urine, normal. The Ewald test breakfast shows free hydrochloric acid 16 and a total acidity of 28 per cent; no occult blood, but bile positive. The X-ray exami-

nation, by a very competent roentgenologist, reveals no stomach abnormality. The Wassermann test from blood one plus; from spinal fluid four plus.

SUMMARY

These patients presented many similar features, which were helpful in diagnosis.

1. Weakly positive Wassermann in blood, but strongly positive in the spinal fluid.
2. Irregular pupils.
3. Reaction of pupils to light sluggish, reaction to accommodation normal.
4. Normal or sluggish knee kicks. Rhomberg and sensory examinations negative.
5. Sudden onset and sudden relief from attacks, without apparent cause.
6. Violent pains without food or alkali relief.
7. Severe vomiting during paroxysms with occasional hematemesis.
8. Absence of fever during attacks.
9. Normal urine, blood, test breakfast, and gastro-intestinal X-ray examinations.

Gastric crises are often the first symptoms of locomotor ataxia and may remain so for years. Two of these cases had had definite stomach crises for fifteen years, one for six years and the other for four years, and none had shown ataxic signs.

Charco, in his classic description of tabes in 1868, recognized the diagnostic pitfalls of this manifestation of syphylis when he said, "but of all the visceral symptoms, one which is most remarkable and the least known, if I mistake not, is that which I have proposed to designate by the name of gastric crises."

In conclusion it should be emphasized, that until the symptoms of gastric crises is kept constantly in mind, and until the Wassermann test becomes routine in chronic abdominal complaints, spinal syphylis will continue to be mistaken for real abdominal pathology.

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GASTROENTEROPTOSIS.*

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DEFINITION—Gastroptosis, which in its strict and narrow conception indicates ptosis of the stomach, was first described by Glenard, and we are indebted to him for the introduction of the term to medical nomenclature. The condition of ptosis of the stomach alone, however, occurs so infrequently and is so commonly associated with ptosis of the other abdominal organs that the more comprehensive term of Gastroenteroptosis has superseded the more restricted term. Prolapse of the kidneys, intestines, colon, spleen, liver, etc., are indicated by the terms nephroptosis, enteroptosis, coloptosis, splenoptosis, hepatoptosis, etc., but, like prolapse of the stomach, they occur singly so infrequently that it seems wiser to discard this cumbersome and unnecessary multiplication of terms and adopt the all-embracing term of Gastroenteroptosis.

ETIOLOGY—Prolapse of the abdominal organs is frequently met with in patients who consult the physician for some gastric disturbance and who attribute their symptoms to some organic or functional disease of the stomach. The diagnosis made by the patient is frequently "dyspepsia," "gastritis" or "gastric ulcer," and it is only when such patients are subjected to more careful observation and study that the true condition is revealed.

Etiologically two different forms of gastroenteroptosis are found, the first being acquired and the second inherited. The first type is found as a result of mechanical causes, chief of which are improper dress in women, traumatism and frequent child-bearing followed by improper post-partum care. One of the most frequent and potent causes is lowering of the intra-abdominal pressure from the emptying of the uterus, the removal of large abdominal tumors or cysts and the draining of ascitic fluid. To these factors in the lowering of the intra-abdominal pressure may be added loss of weight, and particularly loss of omental fat, which frequently follows wasting disease, and by which the natural fat cushion which bolsters up the viscera and aids in maintaining the intra-abdominal pressure is lost.

The inherited or constitutional form of gastroenteroptosis has been especially brought to the attention of the medical profession by the researches of Stiller. According to this investigator 90 per cent of the cases of prolapse of the abdominal organs owe their abnormality to a distinct form of physical conformation which he designates as the "habitus enteroptoticus." Patients exhibiting the "habitus enteroptoticus" and suffering from the weakness and malpositions of the abdominal organs which accompany it are apt to develop into neurasthenics.

The attitude of the patient is probably the first thing that will attract the attention of the physician in those showing the characteristic "habitus enteroptoticus." Such patients do not stand erect, but slump down in a characteristic attitude, —stooped shoulders, retraction of the epigastrium

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and protuberance of the hypogastrium, forming the so-called "pot belly." Such patients will usually exhibit a general lack of muscle tone; they are weak and have long, narrow chests with a rather acute costal angle. Frequently, also, they will show a floating tenth rib (Stiller's sign). This is the type of patients in whom we are accustomed to look for floating or prolapsed kidney, and the finding of this stigmata, combined with a low-hanging stomach, is almost pathognomonic of gastroenteroptosis.

Associated with prolapse of the stomach and intestines we almost always find gastric and intestinal atony, defective or irregular gastric secretion and nervous dyspepsia. These three disorders may differ in degree and in their relative severity; at one time the symptoms of the prolapse will predominate; at another time the gastric secretion will be at fault; and again the outstanding symptom will be the nervous dyspepsia.

PATHOLOGY—By the term gastroptosis we do not imply a prolapse of the entire stomach. Owing to the attachment of the stomach at the cardia it is impossible for the entire organ to descend. What is meant by the term is a prolapse of the pyloric end of the stomach which implies a stretching, or downward drag, of the organ, forming the so-called "water trap" stomach. The causes leading to this descent of the stomach and intestine is probably a stretching or relaxation of the mesentery and ligaments due to deficient muscle tone which is inherent in the "habitus enteroptoticus" and also to the disturbance of the equilibrium of the intra-abdominal pressure due to the loss of mesenteric fat, the emptying of a gravid uterus or the draining of ascitic fluid.

In any marked ptosis of the stomach the duodenum, in whole or in part, is dragged down with it, and the entire large intestine is pushed down by the descending stomach. The mesentery stretches easily to meet this condition. Only at the hepatic and splenic flexures of the colon do the mesenteric supports rigidly hold the organ in place, and as a consequence a sharp angulation of the gut occurs at both of these points. Not infrequently, however, a downward displacement of the liver will occur in connection with the ptosis of the other abdominal organs, and in such cases marked angulation of the colon at the hepatic flexure will not be found. The hepatic flexure is normally somewhat obtuse, and the angulation at this point caused by prolapse of the colon is rarely marked. The splenic flexure, on the other hand, is normally acute, and when accentuated by prolapse of the transverse portion of the colon may produce a condition approximating stenosis. This produces a mechanical obstruction to the passage of the intestinal contents, and, in connection with the atonic condition of the stomach and intestines inherent in the "habitus enteroptoticus," leads to an obstinate obstipation, which is characteristic of gastroenteroptosis. Because of the festoon-like position of the transverse colon the contents of the colon have to be propelled "up hill," so to speak, to encounter the obstruction offered by the sharp angulation of the splenic flexure, and the atonic musculature of the bowel is unequal to the task of propelling the fecal contents past the obstruction.

The transverse colon is the portion of the intestine most frequent, and most markedly, involved in prolapse of the stomach, though the entire gut is usually pushed downward by the weight of the superimposed organs and the weakening of the mesenteric supports. Any material degree of gastroptosis will produce coloptosis and enteroptosis. In women it is not unusual to find prolapse of the uterus and ovaries associated with prolapse of the stomach and intestines, since the same causes operate in one case as in the other.

Incidence, Age and Sex—Kemp, in his work on Diseases of the Stomach, Intestines and Pancreas, quotes Meynert as having found in fifty girls, twelve years of age, 50 per cent with gastroptosis, while 80 per cent of all the women in his gynecologic clinic were said to present this condition. The percentage of cases occurring among male adults he places at five. Kemp says, further, that from a study of various statistics it may be estimated that from 20 to 25 per cent of women complaining of gastric disturbances will be found to have movable kidney and enteroptisis, and that unquestionably the percentage of cases of gastroptosis among all women, including those who complain of no symptoms whatever, will average at least 15 per cent in our city populations. The percentage of cases of enteroptisis and nephroptosis among males complaining of gastric symptoms Kemp places at about two or three. He finds the ratio of men to women to be as 1 to 8 or 10. Glenard finds a higher percentage in both men and women, and his figures for incidence in both sexes is 30 per cent and 70 per cent, respectively, for men and women, the ratio between the two being 3 to 7.

The age at which the syndrome is most frequently noted is between 18 and 40, though, as Meynert has stated, he has found the condition in 50 per cent of girls 12 years of age. Between 50 and 60 years of age the symptoms of the condition are more manifest than at an earlier age, as would naturally be expected in view of the decreased muscular tonus of the abdominal walls which accompanies advancing age.

Subjective Symptoms—The subjective symptoms of gastroenteroptosis are generally those of neurasthenia plus those of gastro-intestinal disturbance. At times there may be a total lack of symptoms and the condition is discovered by accident or in the course of an examination for some other condition. When symptoms exist they may be referable to the stomach, intestine, gall bladder, kidneys or appendix. The symptoms may vary in degree from slight discomfort to the severe type described by Glenard. The picture given by Kemp of the gastroenteroptotic patient is as follows: "Some patients have the symptom complex of hyperchlorhydria, while others complain of belching and discomfort immediately after meals. There is usually marked and obstinate constipation; rarely diarrhoea. At times intestinal catarrh or mucous colic is noted, and flatulence is often complained of. The patients may suffer from headache, are frequently nervous and hys-

teric, almost always neurasthenic, irritable and mentally depressed. There is often a feeling of weight or bearing down in the abdomen which is relieved by proper support. In women menstrual disorders are frequent and dysmenorrhoea is often present."

According to Aaron, patients with the "habitus enteroptoticus," which has developed into pronounced gastroenteroptosis, may not experience any troublesome symptoms whatever from their misplaced organs. The same may be said of those whose prolapsed abdominal organs are the result of purely mechanical processes, and many patients with gastro-enteroptosis have been relieved of their distressing symptoms without the correction of their anatomic displacements. From these facts it may be inferred that gastroenteroptosis alone, in many cases, is not responsible for the invalidism of the patients, but that the cause must be sought for in the triple symptom complex of gastroenteroptosis, atony of the gastro-intestinal tract and neurasthenia. As Aaron very tersely expresses it: "The constitutional neurasthenia of enteroptotics is responsible for a great many of the subjective symptoms ascribed to gastroenteroptosis itself. The displacement merely aggravates the neurasthenic effects, or perhaps in some instances initiates them by the continuous traction of the displaced viscera on the mesenteries, thus placing the abdominal sympathetic nervous system in a condition of continued reflex irritation."

The general weakened muscular tone of the patient suffering from gastroenteroptosis manifests itself especially in the gastro-intestinal tract, and as a result we have atony of the stomach and intestines. This condition, with the concomitant neurasthenia, induces such symptoms of nervous dyspepsia as pressure, fullness, nausea, belching, burning sensation in the stomach, hyperacidity, vague discomfort after eating and occasionally pain in the epigastric region. Accompanying these symptoms there may be a variety of nervous manifestations, such as lassitude, dull headache, inability to work or to concentrate, irritability, mental depression and general weakness. As a rule the appetite is poor, though occasionally it may be normal or, more rarely, voracious. A frequent symptom, especially in women, is backache, which, in their case, may be due to prolapse of the uterus or ovaries which so often accompany descent of the abdominal organs.

Objective Symptoms—Patients with the "habitus enteroptoticus" present a characteristic appearance. As a rule they are tall and thin, or of slight stature, with long arms, thin neck, narrow thorax with acute costal angle. They stand in a slouching position, with sloping shoulders, retraction of the epigastric region and a protuberant abdomen,—the so-called "pot belly." The bony structure is slight, the muscles weak, there is a marked diminution of adipose tissue and there is a predisposition to lordosis and flat-foot. Stiller gives as one of the stigmata of the "habitus enteroptoticus" a floating tenth rib. These patients often suffer from anaemia, look pale and give the impression of being ill.

The X-ray affords very valuable aid in the diagnosis of gastroenteroptosis. The ptosed stomach is seen to be elongated, of the fish-hook or water-trap form, with the upper border below the level of the umbilicus. An abnormally low position of the greater curvature of the stomach cannot be taken as evidence of ptosis, as this occurs in dilatation of the stomach as well as in ptosis of that organ. To constitute prolapse of the stomach there must be a descent of the lesser curvature as well as of the greater. Associated with the characteristic elongated form and low-hanging position of the stomach the X-ray will also frequently show a sluggish motility and inefficient peristaltic waves. The gastric atony thus shown by X-ray examination need not necessarily result in gastric retention, as evidenced by the presence of barium in the stomach after six hours, for the gastric atony may be compensated for by a relaxed pylorus and the stomach may empty itself in normal time despite the deficient motility.

In order to demonstrate the co-existence of coloptosis or enteroptosis with the gastroptosis it is advisable to administer a barium enema and examine the patient in the standing position, or, if the enema is not feasible, almost equally good results may be obtained by an X-ray examination of the patient in the standing position twenty-four hours after the administration of the barium meal. The transverse colon will then usually be found to form a low-hanging loop, or festoon, between the hepatic and splenic flexures, the lower portion often lying on the floor of the pelvis.

Diagnosis—The diagnosis of gastroenteroptosis is made on the history of the case, the gastric symptoms, the existence of a neurasthenic state, the "habitus enteroptoticus" and the X-ray findings. This symptom complex presents a picture which cannot easily be mistaken, yet it is no uncommon thing to find these patients being treated for gastric ulcer, gastritis, neurasthenia or constipation, without considering the syndrome as a whole. The diagnosis may safely be made on two physical findings alone, viz: a ptosed or movable right kidney and prolapse of the lesser curvature of the stomach below the level of the umbilicus. These two symptoms, when found in conjunction, may be said to be pathognomonic of gastroenteroptosis, though an X-ray examination of the entire gastro-intestinal tract should be made for the purpose of confirmation. I do not consider a gastric analysis essential for the diagnosis of gastroenteroptosis, as the findings are too variable to be of value. The secretion may be normal, hyperacid or hypoacid, and this variation may be found in the same individual at successive examinations.

Prognosis—The prognosis for total and permanent replacement of the prolapsed organs is not good. If the condition has existed for some time the ligaments and mesenteries will have become stretched, and it is impossible to restore them to their normal condition. It is possible, in some instances, to lessen the degree of the prolapse, but total replacement cannot be looked for. As has already been stated, however, the distressing symptoms which mark this symptom complex cannot

be attributed to the prolapse of the stomach and intestines alone, but have their origin in the general state of the patient, and it is possible to so improve this that the symptoms will wholly disappear, or be greatly ameliorated, and the patient enabled to live out the remainder of his life in comparative comfort. As Aaron has so aptly said: "We cannot give these patients normal mesenteries, but we may give them normal function."

Prophylaxis—The early recognition of the "habitus enteroptoticus" in young subjects should be sought by noting their peculiar physique and tendency to gastric disorders. In such patients marked departure from the normal and the development of pronounced gastroenteroptosis may be prevented by early and judicious hygienic and dietetic treatment.

In the case of parturient women with a tendency to gastroenteroptosis, rest in bed for a suitable time after confinement should be insisted upon, together with proper bandaging and the strengthening of the abdominal muscles by exercise and massage. Remembering that one of the most potent causes of gastroenteroptosis in those predisposed to the condition is the sudden letting down of the intra-abdominal pressure the importance of these precautions will be apparent. By the application of these prophylactic measures the undue relaxation of the abdominal walls incident to childbirth may be obviated and the necessary intra-abdominal pressure preserved. The same precautions should be observed in tapping the abdomen in cases of ascites and the removal of large abdominal tumors.

Treatment—The treatment of gastroenteroptosis, after the condition has been fully established, resolves itself into medicinal, dietetic, hydro- and physio-therapeutic, suggestive and mechanical. All other methods should be tried before recourse is had to mechanical measures, which at best afford merely an artificial support, or "crutch," to the weakened abdominal walls. These are sometimes justified and necessary, however, when other curative measures have failed or appear hopeless, and consist of some form of abdominal bandage which will raise the prolapsed viscera to a more normal position, prevent their further descent and maintain the intra-abdominal pressure.

Medicinal treatment consists in the administration of drugs which will improve the muscular tone of the stomach and intestines, overcome the atony of these structures, relieve the marked obstipation, promote the appetite, aid in the assimilation of food, relieve the neurasthenic state, assure sufficient sleep and build up the general well-being of the patient.

Hydro-therapeutics and physio-therapeutics should be of such a nature as will stimulate the muscle tone of the patient rather than depress it. Such measures are the alternating hot and cold shower, the needle spray, the Scotch douche, the use of the high frequency electric current and massage. Cabinet baths and hot tub baths are debilitating and should be avoided.

Since in gastroenteroptosis there is always a loss of adipose tissue and especially of the intra-abdominal fat, one of the first aims of the physician in treating this condition should be to increase the weight of the patient. The dietetic treatment of these cases has for its object the restoration of the patient to his normal, or supra-normal, weight and the improvement of the general nutrition in order to overcome the neurasthenic state, to strengthen the muscles of the abdominal wall and bring about the re-establishment of the intra-abdominal pressure. The diet should be as nutritious as possible, should be easily assimilated and should contain a large amount of fat. Milk, cream and butter are among the most suitable articles of diet, though the menu must be governed entirely by the requirements of the individual case, and the motor and secretory powers of the stomach and intestines must be given due consideration in prescribing the diet. These patients are always underweight, and it may be necessary to place them upon a rest-and-fattening cure in order to bring them back to, or above, the normal weight. It has been found that neurasthenics and patients with gastroenteroptosis do better when the adipose tissue has been restored or brought above normal, and the hyper-alimentation treatment has the two-fold purpose of relieving the neurasthenic state and replacing the intra-abdominal pressure by the deposition of fat in the omentum. In connection with the rest-and-fattening cure it is advisable to elevate the foot of the bed or to place a pillow beneath the buttocks in order to favor the upward return of the viscera by gravitation. With the same object in view it is well, also, to have the patient assume the knee-chest position for brief periods several times a day.

Since the abdominal muscles play so important a part in the maintenance of the intra-abdominal pressure by which the abdominal organs are retained in position, and since these muscles are always flabby in the "habitus enteroptoticus," it is necessary to employ measures to restore their tone. One of the best means for the accomplishment of this end is systematic abdominal gymnastics, and patients should be instructed in these procedures and required to practice them religiously.

The gastroenteroptotic patient is often a neurasthenic and usually mentally depressed, and in order to obtain the best results he should be placed in cheerful surroundings, with normal cheerful companionship and mental and physical relaxation. Association with other invalids should be avoided, and the patient encouraged to indulge in mild out-door sports. New interests, new surroundings, perhaps new friends, when combined with proper rest, food, hygiene and exercise will go far to stabilize the nervous system, promote appetite and restore the normal muscle tone, and when these goals have been achieved the patient will be well on the road to recovery from the distressing subjective symptoms, if not from the pathological displacements, of gastroenteroptosis.

THE AMOEBA AS THE CAUSE OF THE SECOND GREAT TYPE OF CHRONIC ARTHRITIS

Preliminary Note

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And

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By the second great type of arthritis we mean that form of arthritis hitherto described by the Germans as arthritis deformans, by the English as osteoarthritis, by Goldthwait as hypertrophic arthritis, by Nichols and Richardson as degenerative arthritis, and by other writers under various titles. This is the senile form of arthritis, the chronic rheumatism of the elderly. For want of a better name some writers have called it metabolic arthritis, a singularly unfortunate and quite meaningless term.

In previous papers[1] Ely has set forth the pathology at length, emphasizing the fact that the primary change is a necrosis in the bone marrow in the region of the joint, and that all subsequent changes in the bone and in the cartilage are the result of this necrosis. All efforts to find the cause of the necrosis have been in vain. Everything in the bone indicated that the changes are caused by some form of organism, which killed by shutting off the blood supply, but all attempts to find the organism have been fruitless. We had been searching for a bacterium, in spite of the fact that the pathological anatomy of this disease, both gross and histologic, was absolutely different from that of the arthritides caused by bacteria, e. g., the tubercle bacillus, the treponema pallidum, the diplostreptococcus, etc. Ely has repeatedly called attention to the presence of infection about the roots of the teeth in patients with this type of arthritis.

Some months ago the conception of the relationship of amœba to this problem was suggested by Doctor J. V. Barrow, of Los Angeles, who had been working with Professor C. A. Kofoid, and who had found the amœba histolytica (sive dysenteriæ) in the stools of one of Ely's patients. Since then we have pursued this line of investigation in the Stanford Medical School and are conducting the work as a joint research. A full report of our investigations will be published at a later date. Doctor J. A. Campbell of the Dental Department of the Stanford Clinic has rendered valued assistance.

Paraffin sections of the bone in the region of necrotic areas from this type of arthritis were cut 4 to 8 microns thick. Stained by the standard iron hæmatoxylin method, the sections showed organisms identified as endamœba histolytica. These organisms were abundant in the region of necrotic areas in the marrow, but not actually in the necrotic areas. They were especially abundant in the immediate vicinity of the capillaries. Photomicrographs will appear in a later communication. We appreciate that we are but on the threshold of the problem, and this progress note is published to stimulate criticism and promote further research. It is only proper to state that our findings lack unanimous confirmation.

We ask for material removed at operation upon patients with this type of arthritis. It should be placed immediately in Schaudinn's solution at a temperature of 50° C., and may be mailed to us in a sealed container.

1 Ely, Leonard W. The Great Second Type of Chronic Arthritis—Further Studies. California State J. of Med., 1921, v. XIX, 415.

ON THE OCCURRENCE OF ENDAMOEBA DYSENTERIAE IN BONE LESIONS IN ARTHRITIS DEFORMANS

By CHARLES A. KOFOID, Ph. D., Sc. D.,

And

OLIVE SWEZY, Ph. D.

Contribution from the Zoological Laboratory, University of California, and the Division of Parasitology, Bureau of Communicable Diseases, California State Board of Health, Berkeley, California.

A portion of the head of a human femur removed by operation in a case of arthritis deformans, fixed in formalin, decalcified and sectioned by Dr. Leonard W. Ely and stained in iron hæmatoxylin and examined in the zoological laboratory at the University of California, reveals a pure infection of amœbæ about the characteristic lesions in the bone. No stained bacteria have been found in our examination. The amœbæ are somewhat localized about the centers of necrosis near the articular surface. They are more abundant around the capillaries in the peripheral zone around the lesions. The organisms interpreted by us as amœbæ are unlike known normal or pathological tissue cells. They have the characteristic nuclear structure or *Endamœba hysenteriæ* Councilman and Lafleur, found in tissues about amœbic ulcers in intestinal amœbiasis. Their nuclei are unlike those of *Endamœba gingivalis* found in gingival abscesses and in granulomas of extracted teeth. Their nuclei are unlike the characteristic nuclei of other known parasitic amœbæ of man, and unlike those of normal and pathological tissue cells as figured in standard treatises and found by us in available preparations of human bone and bone marrow. The stained amœbæ show many instances of characteristic amœboid pseudopodia. Their distribution is unlike that of any known tissue element.

In the interest of further investigation, it is desirable that stool examinations for amœbæ be made in cases of arthritis deformans. Stools for such examinations may be sent for three to six successive days in legal mailing cases only, or by prepaid express to the Division of Parasitology, State Hygienic Laboratory, Berkeley, California, for examination by the writers.

FALLACY OF THE USUAL TESTS FOR SWIMMING POOLS

By J. W. ROBINSON, M. D., Deputy Health Officer, Los Angeles County

Public health officials should realize their responsibilities in the proper sanitary control of swimming pools, because of their importance in the spread of communicable diseases, particularly in infections of the eye, ear, nose and throat. This is distinctly a medical and not an engineering problem. Engineers have done commendable work in building and supervising swimming pools, but without comprehensive knowledge of medicine, including bacteriology and sanitation, they have not appreciated the dangers of this form of infection. The tests usually applied to protect the public, while good, do not go far enough. Swimming pool infections of the eye, ear, nose and throat are not only dangerous, but difficult to prevent. Mucous or pus containing hemolytic streptococci, pneumococci or other infective organisms are separated from the swimmer by direct washing, coughing, sneezing, blowing the nose or expectorating, and floats upon the surface of the water. It is then easy for some of this infective material to get into the eye, ear, nose or throat of other bathers.

The usual methods of testing water fail to show this danger and lead to false security. I am convinced that many of the "colds caught" by the people while in the swimming pool are actually swimming pool infections. The literature contains many somewhat casual references to the dangers of swimming pools. Harrington & Richardson's "Practical Hygiene" merely mentions it. McNutt, in "Manual for Health Officers," says: "Swimming pools have been suspected of transmitting eye affections, typhoid and other diseases." Rosenau, in "Preventive Medicine and Hygiene," states that "The diseases contracted in swimming pools are inflammatory infection of the upper respiratory tract and conjunctiva and injury and inflammation of the ears."

In an excellent article by Simons (American Journal of Public Health, March, 1921), regulations prohibiting expectorating are provided, but the subject of infection is casually treated. The outlet for water mentioned in this article is not in a proper place, as I shall show later.

In their rules for sanitation and safety of swimming pools, adopted December 4, 1920 ("Special Bulletin No. 38"), the California State Board of Health have, to a considerable extent, recognized these dangers and have taken steps to correct them, but not nearly as fully as is desirable. Rule 3 states: "Facilities for adequately protecting the pool waters against unnecessary sputum contamination by bathers must be provided. In order to keep the surface of a swimming pool reasonably free from sputum and objectionable miscellaneous floating contamination, it is necessary to provide both convenient and proper places for expectoration by bathers, and means for frequently or continuously skimming off the surface water. The device used in practically all up-to-date swimming pools to meet this requirement is the combined overflow and expectoration gutter, extending completely around the pool." In Rule 2, they mention the desirability of having the water flow into and out of the pool at various levels. Rule 4 states: "All persons known to be or suspected of being afflicted with infectious diseases shall be excluded from the pool." This is very good, but who is going to determine whether or not bathers are infected? When they enter pools in large numbers, in a short time even a trained observer could not possibly locate cases of a communicable nature. So, for safety sake and practical results, one must consider that a certain percentage of all people who enter a swimming pool are carrying communicable infections, and adequate provisions must be made to protect the other bathers.

As in many other conditions, it is easier to point out an evil than to correct it. A practical solution can only result from intelligent discussion by a number of people looking at it from different angles. The California State Board of Health rules are in the right direction, but they are not specific enough. As a practicable contribution to this subject, I would suggest:

First—In order to prevent stagnation of waters in corners, except what is overcome by the movement of bathers, the location of supply and drainage pipes should be specifically stated by Boards of Health or of Engineering.

Second—In addition to rules concerning clearness and bacterial counts, there should be a rule stating the frequency with which water should be changed, on a basis of a certain number of cubic feet to each bather, or in ratio of the surface area per bather. There should be a constant flow of water from the surface into the overflow gutters, and this water should be supplied by as many intake pipes and removed by as many overflow pipes as is necessary to keep all parts of the surface of the water changed. To accomplish this satisfactorily, the flow of water should be across, and not lengthwise of the pool, in order that mucous floating on the surface would be there the minimum amount of time.

Third—Methods should be worked out of skimming the surface of the water to examine for pus or other infectuous material.

Fourth—A law should be enacted making it a misdemeanor for an infected person to enter a swimming pool.

EDITORIALS

A PROBLEM IN MEDICAL ECONOMICS

Modern business co-ordinates the facilities and resources necessary to produce a given result. This requires the harmonious blending and utilization of specialists in direct and collateral lines—organization. Similar policies prevail in some of the professions. It is not usual to see a successful attorney constituting a unit of service. Why? Simply because it is better business for the lawyer and better business for clients for several men, specialists in the various branches of the law, to associate themselves together. Progress along almost all lines, with improvement in service to the public and in net income to the workers, is the result of combinations of efforts into efficiency units of greater scope than may be found in one man.

To a large extent physicians are still trying to handle the great humanitarian service of the prevention and cure of disease on the basis of competition between individuals when, as a matter of fact, the discharge of our full duty requires a larger unit. No one man can be a competent unit for the discharge of all the duties of the physician. Not having the group organization of the business world and other professions, there is a strong tendency to act as brokers for the things we cannot do adequately.

The vices of *secret* fee-splitting, expensive institutions and many other familiar problems are perfectly natural outgrowths not of our faulty science, but of our faulty business methods. The one-man unit of service in medicine in this modern day sometimes means mediocre service to the patient, or brokerage connections that are expensive to the patient and time consuming for the physician. These basic facts explain to a large degree why our field of activity is being constantly narrowed, our work beyond individual effort made less effective, and the average income of physicians kept at a disgracefully low figure.

Governments and municipalities and non-medical voluntary societies have taken over most of the great field of preventive medicine; practically all large corporations have their own medical departments, run on business bases; insurance companies maintain medical departments and build and operate their own institutions; accidents and injuries are handled largely by the State, and so on through a long list, showing a constantly narrowing field for the individual independent medical man, while the big work of our profession in the prevention and cure of disease and the institutions necessary to our work are passing out from medical control to lay business management, and physicians are becoming more and more employes of the organizers of system or of politics.

It behooves the medical profession to give these matters more serious attention than they are now giving and to take the lead in solving what should be their own problems.

It is possible and desirable that competent physicians associate themselves together in groups in such a way that they can render better service, more economically, to sick people than they are now doing as individuals. This can be done and is being done by certain groups in such a way that there is no undue or unfair competition with the individual physician and in such a way as not to endanger the personal responsibilities and relations between the patient and any member of the group.

The first essential in any group formation is, that it have as executive a non-practicing member who has a practical economic training and at the same time has the true physician's ideals, altruism and love of service.

WILL "FOOD SPECIALISTS" SUPERSEDE PHYSICIANS

Before answering more definitely the inquiries that are being received from physicians over the State regarding nutrition and dietotherapy publicity, and in order that opinions of physicians may be available, the editor welcomes answers to the following questions:

Is nutrition and dietetics a medical or a non-medical subject?

Is dietetics, as it is being used in popular parlance, developing into another novel "system" of medicine? Why all the books and other publications by M. D.'s and other D.'s discussing the new (?) "science" of nutrition? Why the extensive independent organizations? Why the constantly expanding and extending courses by some schools? Why so much propaganda in so many private commercial, scientific, hospital, nursing and similar magazines? Why is it that most of these articles are thinly disguised criticisms of physicians and hospitals? Who is paying for the propaganda invading the movies, the fairies, the expenses of traveling lecturers and other circus food performers?

What is the meaning of the reports now coming into every medical center of the diabetics, chronic nephritics and other patients who are under the care of "food specialists" and food purveyors? Why do newspapers find it profitable to have "food specialists" pages? Why do department stores run dietetic departments? Why are so many mixtures of bran and chaff being advertised?

Is the public being prepared for the announcement of a new specialty of medicine to be conducted by non-medical persons? Has the time arrived when many persons are now being treated by these people without reference to a physician? Is it not about time that physicians gave this question some serious attention?

MINERAL WATERS

Among other classes of advertising, the California State Journal of Medicine carries the advertisements of a number of wholesome waters of one sort or another. Its columns are open to any ethical advertisement of an ethical product. The fact that an advertisement is carried in the Journal should be, and is, interpreted by every member of

the State Medical Society as an official endorsement.

There are a large number of so-called mineral waters on the market that are not advertised in the Journal and could not buy space in it at any price. The office has recently been furnished literature showing the endorsement by some of our members of waters that belong in this category. In some instances that have been investigated, it was found that the physician did not give such endorsement and did not authorize the use of his name; in others, physicians, without thinking seriously of the matter, have alowed their names to be used.

This matter is one of more importance in consideration of the public welfare and public health than is generally realized, and it is requested that before members of our society endorse a mineral water or other advertised products, they communicate with their State Society and find out the standing of the substance in the eyes of the medical profession.

THE ART OF MEDICINE

Abstracts from a Sypmposium on this subject appearing in the New York Medical Times, August, 1921.

"Those of us who, now growing old, were brought up under great artists in healing, are more and more putting to ourselves the query: 'What is to become of the loftier motives and methods of remediation when the Art of Healing comes to merge into the strict Science of Medicine; when there shall come to be swept away such cobwebs, rather gossamer somethings, which once glorified the clinical domain?' Maybe they ought to fade away among fairy tales, fables, folk lore, epic poems, the spirit of chivalry, and other gracious influences, but there are those of us who cling fondly to the old order and feel a great regret that to perhaps most of our younger men it means nothing, for there was something in it without which their spiritual ductless glands, so to speak, will not functionate perfectly—indeed, without which their boasted science will be as sounding brass and tinkling cymbals.

" 'Oh! the little moroe and how much it is;
The little less and what worlds away!'

"It is a deplorable thing that the fusion of what was best in the old regime with the new order of things could not have been more complete. Our highly evolved technology has made science a fetish, to the exclusion of all things else. And the Lenins of science have made the humanists afraid to call their souls their own. Hordes of these tyrants live by the laboratory, and, like a lot of ancient priests ruling a tribal people, sally forth from their temple now and anon to intimidate us with their incantations, which never fail to compel genuflections from a profession more superstitious than the rabble of the Middle Ages; we are science-ridden as men were once priest-ridden. So complete has been the change that there are doubtless standardized younger men who may read this editorial without sensing just what it is all about, or who have been so materialized as not to care. It is largely in the hope, however, that some of these Sauls will see a light as they journey toward a futile Damascus that we have written these things." (Editorial which appeared in May issue of the Medical Times, which occasioned the responses which make up the Symposium.)

"To do a thing so well as not only to surpass one's expectation of one's self, but deserve the commendation of one's fellows, comes near to being a definition or art." (J. Madison Taylor, M. D.)

"The secret of success in medicine lies in the close personal interest in patients, and one's personal power to influence them morally, spiritually and mentally—and *through these physically*. That contact is being lost by the diversity of processes which people are now put—laboratories, X-rays, chemists, dentists, etc.—all of which detract from the personal element. Hence, as an art, medicine is losing." (M. Allen Starr, M. D.)

"In the last analysis, the strength of an organization will be found to rest on the character and equipment of the individual members. One would gather from many of the various 'social welfare' undertakings prevalent in this day that the study of man as man had been abandoned, that the springs of human action had been forgotten, and that a new being was in process of creation. Marx's system of socialism, with which many have been so enamored and which has tainted multitudes and disturbed the body politic, lost sight entirely of the nature of the being it was attempting to deal with for this very reason. This system, as many collateral ones, failed to take note that besides appetites, man, as he came from the Creator's hand, possesses affections and mental desires and moral sentiments and also those reflex sentiments, as exhibited in the desire for love and esteem and self-approval. That failure dooms all such systems to destruction from their beginning. It is only in allowing and encouraging man to apply his personal ability and to make the best of it that progress is made. This is illustrated in every department of human endeavor." (Henry A. Fairbairn, M. D.)

"I have not yet spoken of medicine as an art—as a fine art. It is, in my belief, or should be, the finest of them all. The doctor, the beloved physician, should care for men's bodies the best he knows how, until recovery or the end comes. When the latter, alas, he should bow his head, bend his knees and call in humble prayer to the Almighty Saviour of all men to have mercy upon the man or woman who has gone, and upon all who are left behind and who are near and dear ones, still on earth. Can pure science ever give us such a vision, or come near to such a calling? I do not believe it. I stand for everything that is true and good in the science of medicine, but I proclaim most earnestly that what, after all, has to do with man's most sacred and endless emotions, aspirations, beliefs, affections, and with love over and beyond everything, must ever be and remain the noblest, the best of all human arts." (Beverly Robinson, M. D.)

Yosemite's Comfortable Cabins

To the average person, the term "cabin resort" conjures up some dreadful vision of sleeping on the ground and eating from a tin plate. Let it be said here for the benefit of those who will attend the 1922 convention of the Medical Society of the State of California in Yosemite National Park, May 15 to 18, that the trip involves no such hardship or sacrifice of comfort.

"Why it isn't like the mountains at all," exclaimed one woman from the East, a guest at Yosemite Lodge, when she learned that she could have her breakfast, piping-hot, served at her bedside any morning that she desired to give the order.

Such a comment was not intended to mean that the noble cliffs and waterfalls of Yosemite Valley had been ruined by the erection of buildings out of keeping with the natural surroundings; rather, it was a spontaneous compliment to service rendered at the Lodge, fifteen miles from a railroad, service that measured up to standards of city hotels and far exceeded what the visitor had found at mountain resorts in other sections.

Yosemite Lodge is a little city in itself. "A charming colony of redwood cabins under the pines at the foot of Yosemite Falls, the cabins being grouped around a community center of office, dining-room, lounge, writing room, dance pavilian, theater, swimming pool, children's playground, and nightly camp fire" is the description usually given of it.

The Lodge has its own postoffice, the name of which is Yosemite Lodge, Calif., and mail so addressed is delivered direct from trains without the delay of going through the main office in the village, the name of which is Yosemite, California. The Lodge also has its own telegraph station, Yosemite Lodge, Calif., and long distance telephone facilities. Baggage can be checked straight through to Yosemite Lodge.

In the American Plan dining-room of the Lodge, there is individual service for each guest. The dining-room linen is snowy white, and waitresses and bus boys are uniformed in white.

The other public rooms and broad verandas of the Lodge main group need no special mention, but a word should be said here about the services in the swimming pool group, just across the plaza. The pool is 120 feet long, filled with crystal mountain water, which is heated to a comfortable temperature by steam. Suits can be rented. After a plunge, there is a barber ready to serve the men, a beauty parlor with all modern equipment for hairdressing, facial treatment and manicuring for the women. The laundry in the same group offers high-class service, including the cleaning and pressing of clothing.

Every evening there is an entertainment of merit at the Lodge free to all guests. It might be mentioned here that Ruth St. Denis and Ted Shawn, internationally famous dancers, were among the artists who appeared at the Lodge last year. Every evening except Sunday there is dancing to the music of an excellent orchestra.

A word also should be said about the "cabins" which make up the Lodge's living quarters. Three types of cabins are provided.

The first type is built of redwood in rustic style that harmonizes with the tall pines and spruces around. A generous porch gives entrance to a bedroom with twin beds and other furniture of special design and finish. Dressing room, closet or wardrobe provides ample space for hanging up clothes. The bathroom includes tub, washbasin and sanitary flush toilet of spotless porcelain; in a few of the cabins there are shower baths. Many of these cabins also have screened and curtained sleeping porches on the rear. Electric stoves, 5000 Watts, furnish heat at a turn of the button. American plan, rate $7.50 per person per day.

Redwood cabins without bath make up the second group. Like the cabins with bath, they are furnished with twin beds. Sliding curtains are arranged so that each cabin, 12 x 14 feet in size, can be divided into two private sleeping compartments and a sitting room. Bowls and pitchers are provided and small stoves burning fragrant cedar or pine wood are used for heating. American plan, rate $5.50 per person per day.

Canvas cabins form the third group—and do not confuse the Lodge's canvas cabins with tents. Canvas cabins here are all that the name implies—houses with canvas for walls. They are floored, have electric lights, a screened door and six screened windows with awnings and curtains. Furnishings are similar to those in the redwood cabins without baths. European plan, rate (lodging only) $1.50 per person per day. American plan, rate (with meals in Lodge dining-room) $5.50 per person per day.

Maid service in all cabins assures plenty of towels and, in the cabins without bath, fresh water also. Hot water for the morning toilet may be had without extra charge by those living in cabins without baths, by leaving number of cabin and hour desired at the office of the Lodge.

COME TO YOSEMITE

MAY 15 TO 18

1922

Chaulmoogra Oil Therapy in Leprosy

EDITOR'S NOTE—Literature is rapidly accumulating regarding chaulmoogra oil and its use in the treatment of leprosy. Lay publications are taking an interest in the discussion of the subject and some of the literature, both in scientific journals and lay press, fails to give credit where credit is due. We have received a number of letters of inquiry from physicians regarding the inaccuracies that are being published. In reply, the Journal has had the following notes prepared covering the outstanding features of the oil and its therapeutic value. Comparatively few people realize the fact that much of the recent progress in this field is due to researches carried out in the Hooper Foundation for Medical Research in San Francisco.

Chaulmoogra oil is obtained from the seeds of a tree, Taraktogenos kurzii, native of Burma. This tree bears a fruit the size of an orange, containing many irregular, brown seeds, rich in oil. The oil, which is expressed cold from the seeds, is a heavy oil solidifying at 22°-23° C. and having a characteristic disagreeable odor.

The chemistry of chaulmoogra oil was first adequately investigated by Power and his collaborators at the Wellcome Chemical Research Laboratories, London, from 1904 to 1907. Their investigations disclosed that chaulmoogra oil consists chiefly of the glycerole esters of a hitherto unknown series of fatty acids, having peculiar structural and chemical properties. All previously known fatty acids have a straight chain arrangement of the atoms in the molecules and are optically inactive; acids of the chaulmoogric series have the atoms arranged in a five-membered ring with a side chain of variable length and are optically active. These authors isolated and determined the constitution of two fatty acids of the chaulmoogric series: chaulmoogric acid, $C_{18}H_{32}O_2$ and hydnocarpic acid, $C_{16}H_{28}O_2$. It is probable that one or more lower homologues of this series are also present in chaulmoogra oil. Subsequent investigations have shown that these cyclic fatty acids are present in variable quantities in the seeds of many trees closely related to Taraktogenos kurzii, belonging to the botanical family Flacourticeae, but not elsewhere.

Chaulmoogra oil has had a popular medicinal reputation among the natives of India since prehistoric times, being employed externally and internally for the treatment of leprosy and also for the treatment of various skin diseases for which it is probably useless.

The first use of chaulmoogra oil by the medical profession in the treatment of leprosy is somewhat obscure. Morrow states that the drug was first used by Le Page of Calcutta. British scientists, it is stated, undertook the distribution of the seeds of Taraktogenos kurzii in 1856, but by mistake collected the seeds of an entirely different tree. By the end of the nineteenth century, it had become generally recognized that chaulmoogra oil was the only drug that offered any prospects of a successful treatment of leprosy; but many leprologists considered it rather as a palliative than a curative agent. It was formerly administered in the form of a crude oil, by mouth. This oil is, however, so nauseating and causes such serious digestive disturbances that few patients are able to continue the treatment long enough and intensively enough to obtain therapeutic results. Nevertheless, the literature records a considerable number of cases of leprosy improved, arrested and even apparently cured by this method of administration.

Many attempts have been made to obviate the digestive disturbances and to otherwise improve the therapeutic action of the oil. Subcutaneous and intramuscular injections were tried as long ago as 1899 by Tourtoulis-Bey, in Cairo, with some beneficial results, but no cures. The heavy oil is slowly absorbed, causes much pain and sometimes abscesses and occasionally pulmonary embolism. Somewhat better results have been obtained by the subcutaneous or intramuscular injection of various mixtures of chaulmoogra oil, of which the essential feature is the thinning out of the heavy chaulmoogra oil by a lighter oil, in order to obtain better absorption. The best known of these mixtures is that of Heiser and Mercado, which has been used quite extensively. Heiser reported a number of apparent cures of leprosy by its use in the Philippine Islands.

A second method of overcoming the drawbacks to the use of crude chaulmoogra oil has been to separate the fatty acids and convert them into the soluble sodium salts. There were some earlier attempts to make use of the fatty acids and their salts in leprosy, but, however, the first serious employment of this method in the treatment of leprosy was by Sir Leonard Rogers in India in 1916. Since that time the sodium salts of chaulmoogric acids have been employed by Rogers and his collaborators very extensively, both by subcutaneous and by intravenous injection, in the treatment of leprosy in India, with a reported high percentage of improvement and many apparent cures. The sodium salts have the disadvantage, however, of being very irritating to the tissues.

Rogers is of the opinion that the therapeutic action of chaulmoogra oil in leprosy is due, not to the peculiar cyclic structure of the chaulmoogric acids, but that it is a property of unsaturated fatty acids in general, which attack in some manner the acid-fast bacilli. He has, therefore, prepared the sodium salts of the fatty acids of cod liver oil, which he calls sodium morrhuate, and later of the fatty acids of soya bean oil. Rogers and his collaborators have used these preparations in the treatment of leprosy, and claim equally as good therapeutic results as with the sodium salts of chaulmoogra oil. Rogers also suggested that the unsaturated fatty acids and their salts might be of therapeutic value in tuberculosis, and he and his colleagues have employed sodium morrhuate for this purpose and reported some encouraging results.

Power and Gornall (1904), during their investigation of chaulmoogra oil, prepared the methyl and ethyl esters of chaulmoogric acid and studied their properties. In 1909, Ludwig Taube obtained a German patent, assigned to Farbenfabriken vorm. Friedr. Bayer & Company, of Elbereld, Germany, and later patents in England and the United States, covering the preparation and use of the ethyl esters of chaulmoogric acids in the treatment of leprosy. This derivative of chaulmoogra oil was put on the market under the trade name of "Antileprol." Antileprol appears to have been used by a few physicians with indifferent results, and to have attracted but little attention of leprologists. Subsequent to the war and the confiscation of German patent rights, the Alien Property Custodian of the United States Government sold the patent rights for the preparation of the ethyl esters of chaulmoogric acids ("Antileprol") to the Winthrop Chemical Company, of New York, who have put this derivative on the market under the trade name of "Chaulmestrol."

In 1919, Hollman and Dean sought a non-irritating and readily absorbable derivative of chaulmoogra oil for treatment of lepers in the Hawaiian Islands. Dean, President and head of the Department of Chemistry of the College of Hawaii, prepared the ethyl esters of various fractions and of the total fatty acids of chaulmoogra oil, which Hollmann used for the intensive treatment of lepers. This therapeutic investigation was later continued by Dean and McDonald. In their latest publication (1921), McDonald reported 142 cases of leprosy paroled as apparently cured by intramuscular injections of the ethyl esters of chaulmoogric acids during the preceding two and one-half years.

At present, Professor Dean and his assistant, Dr. Wrenshall are working on esters of lower homologues of chaulmoogric acids which have a lower molecular weight, are more highly unsaturated and are believed to have a greater therapeutic value. Meanwhile, the clinical side of the work has been taken over by Dr. Hasseltine, of the United States Public Health Service. The United States Public Health Service has taken a conservative stand on the therapeutic results of the ethyl chaulmoograte treatment of leprosy in the Hawaiian Islands, as is indicated by a short article in Public Health Reports (1921). Some relapses of paroled patients have occurred, and they prefer to speak of the paroled patients as having the disease arrested rather than cured. The report states: "In properly selected cases, especially in the young and in those who are in the early stages of the disease, the clinical improvement is rapid and striking. The result is less favorable in older persons and in case of long duration. At this time, we cannot say that the ethyl esters of chaulmoogra oil are a cure for leprosy."

Until 1920, the use of chaulmoogra oil and its derivatives in the treatment of leprosy was wholly empirical. There existed no scientific knowledge of how chaulmoogra oil acted in leprosy, the nature of the active substance in the oil, and whether its therapeutic action was specific for leprosy or might include other diseases. In that year, Walker and Sweeney, working in the George Williams Hooper Foundation for Medical Research, San Francisco, published the results of an investigation of these problems. It was determined experimentally that chaulmoogra oil contains substances having a high bactericidal activity. This bactericidal activity was found to reside in the fatty acids of the chaulmoogric series, and to be a function of the carbon ring structure, which is peculiar to the chaulmoogric acid series. The bactericidal activity of these cyclic fatty acids was shown to be specific against the acid-fast group of bacteria, to which the bacilli of leprosy and tuberculosis belong and absent toward all other bacteria. Walker demonstrated that other unsaturated fatty acids, such as those of cod liver oil, did not possess the specific bactericidal activity of the chaulmoogric acids. From these experimentally determined facts, it was concluded that the therapeutic action of chaulmoogra oil and its derivatives in leprosy was due to its direct bactericidal action; that Rogers' claim for the therapeutic action of the sodium morrhuate was unsupported; and it was suggested that there were theoretical grounds for believing that chaulmoogra derivatives might be of therapeutic value in tuberculosis.

NATIONAL BOARD OF MEDICAL EXAMINERS

This board was organized in 1915 as the result of action by the American Medical Association. Its purpose is to establish in the United States a standard qualifying examination which can be safely accepted by all State Boards of Medical Licensure as an adequate qualification for the practice of the healing art. Although in operation only six years, this board is now accepted by the United States Army, Navy and Public Health Services as qualifying for admission to their medical departments. The boards of medical examiners of twenty States now also accept the reports of this board in lieu of their own examinations.

The importance of this board is being more and more realized and the magnitude of its work is increasing tremendously. The method of examination has been modified so that it may be taken in three parts at separate times. Persons who desire to take this examination and who are interested in its workings—and this should include every young physician in the United States—should address Dr. J. S. Rodman, Secretary, 1310 Medical Arts Building, Philadelphia, Pa.

Lane Lectures

Summary of Lane Medical Lectures for 1921 delivered by Dr. L. Emmett Holt, Emeritus Professor of Pediatrics, College of Physicians and Surgeons, Columbia University, New York, at Stanford University Medical School. (Reported by H. K. Faber, M. D., Stanford University Medical School.)

The eighteenth course of Lane Medical Lectures was delivered by Dr. L. Emmet Holt, Emeritus Professor of Pediatrics, College of Physicians and Surgeons, Columbia University, New York, on the evenings of December 5, 6, 7, 8 and 9, 1921, at Lane Hall, Stanford University Medical School, San Francisco, California.

The first lecture reviewed the problems of nutrition, especially as they affect children, the main emphasis being placed on the period after the second year. While underfeeding in adults impairs efficiency it may not greatly impair health, but in children it prevents growth, both mental and physical, and impairs health as well. Resistance to disease is lessened and children become underweight, stunted and anemic.

The selective draft showed about 30 per cent of our young adults unfit physically for military service, and statistics of our schools show that about the same proportion of our school children are underweight or suffering from the effects of malnutrition. The responsibility for this lies with the home, the State and the medical profession. Parents are ignorant of the simplest principles of nutrition; discipline is largely wanting and poverty plays also a certain part, though less in importance. Our medical schools lay too much emphasis on disease and too little on health. The physician's office is too much regarded as a repair shop. The Federal, State and municipal governments have largely neglected the health of children. $9,700,576 was appropriated for the Department of Animal Industry against $271,000 for the Children's Bureau. The average appropriation in twenty-four cities with a population of 250,000 was $1.05 per capita and in eighty cities with a population over 12,000, 71 cents per capita. Many good-sized towns spend less than 15 cents per capita, less than the average admission to a moving picture show.

Stature is affected more by food than by climate. Japanese children in this country are taller and heavier than those in Japan. Native American children of the present generation are taller and heavier than their parents. Nutrition has an important bearing on progress in schools. Ayers has shown a close correlation between the nutrition and the proficiency in their studies of school children in Deroit. Moreover, poor nutrition makes children enter school late and have frequent absences. We cannot fill the head when the stomach is empty, nor can we expect application or concentration of mind from an anemic, nervous child who is twenty or thirty pounds below normal weight. The estimated cost of educating retarded children in the United States is $27,000,000 yearly. It might prove a matter of economy, if some part of this $27,000,000 was devoted to health education and hot school lunches.

The state of nutrition has a very important bearing on resistance to disease. Trudeau's experiments with tuberculosis in guinea pigs shows this, and clinical experience with pneumonia, empyema, typhoid fever, dysentery and other infections point to the same conclusion. The number of specific remedies for disease is small, and for a long time to come it will be the duty of the physician to treat the patient rather than the disease itself. This means very largely the maintenance of nutrition. Growth and repair are closely related processes and influenced by much the same conditions. This is particularly true in childhood. If underfeeding is continued past the normal period of growth, later growth becomes impossible

and dwarfing occurs. This has been shown experimentally and clinically. If to prolonged underfeeding chronic disease is added, which is so often the result of such feeding, the consequences are likely to be permanent stunting of growth, a high mortality in early adult life, impaired physical energy, lowered mental capacity and premature old age.

Through education infant mortality has been enormously reduced. It is not too much to expect that with a better understanding of the subject of nutrition there may be accomplished for the older child something comparable to what has been done for the infant.

SECOND LECTURE

The subject of this lecture was the metabolism of childhood. The requirements for basal metabolism are fairly uniform for children of the same age and weight. Requirements for growth are naturally greatest during the periods of most rapid growth. There are two such periods: first, during the first year, and second, with the approach of puberty. The maximum demands for growth are for girls during the thirteenth year and for boys during the sixteenth year, after which the requirements decline to nothing at the end of the growth period. Eight to fourteen per cent of the entire food taken is required during childhood. The loss in the excreta at all ages is about 10 per cent of the food given. The requirement for activity varies enormously with different children. With some it is two to three times as great as with others. The activity requirement is made up of two factors, first the energy consumed in the processes of the digestion, which is about 6 per cent of the food taken, and second, the amount needed for muscular activity. The latter begins to increase rapidly when the child learns to walk and increases steadily but not rapidly from then on to the time of puberty. The great differences in activity are not sufficiently taken into account in providing diets for children. A very active child may use up so much food for energy that he has none left to supply the needs for growth. Especially during adolescence the food requirements given in the earlier estimates have been much too low. At St. Paul's School in Concord, N. H., it was found that boys between thirteen and seventeen years of age took an average of 5000 calories daily. Compare this with the usual allowance of 3400 calories for an adult man doing moderate work, and the allowance of 3800 calories for soldiers in our army camps. The enormous appetite of boys and girls during the rapidly growing period has a sound physiological basis. If these food needs are not satisfied, both growth and physical development suffer.

An interesting analogy was drawn by the lecturer between food intake and the use of monetary income. Overhead expenses correspond with the basal metabolic needs, normal activity, loss in excreta and digestive work. The remainder may be spent (used in excessive activity) or saved; that is, used for growth. Excessive activity is always at the expense of growth, unless the amount of food taken is correspondingly increased.

THIRD LECTURE

In the third lecture the special uses of protein, fat and carbohydrate were discussed. The protein must be adequate both in amount and in quality to assure proper growth. Many protein foods, especially the vegetables, do not contain adequate amounts of certain essential amino acids. The protein of woman's milk contains all the amino acids required by infants in the correct proportions so that the 1¼ per cent of protein found in woman's milk is adequate. Animal proteins in general are high grade proteins, but are deficient in some respects. Thus cow's milk, which is relatively lacking in cystin and lysin, must be given in double or treble the quantity required with woman's milk to insure adequate growth. The best results in children are obtained when 15 per cent of the food is protein with fully two-thirds of it as animal protein. Fat, in spite of occasional assertions to the contrary, is an essential part of the diet. Certain diseases, especially kerato-malacia, comparable to the xerophthalmia found in experimental animals, are occasionally seen when children are fed on a fat-free diet. Fat is the carrier of vitamin A, which is essential in growth. Animals, but not children, can be reared successfully when low fat diets are given over long periods of time. Growth is retarded and susceptibility to infection increased. Normal stools are never seen in children fed on a low fat diet. The probable reason for this is that the soaps have the function of neutralizing the acid formed in the intestines from fermentation of the carbohydrate. The high fat content of all milks is a conclusive argument for the importance of fats in the diet of the young.

The carbohydrates have the advantage that they are cheap and usually well digested. In infancy most of the carbohydrate is in the form of sugar and after infancy about half is sugar and half starch. Charts were shown giving the proportion of fat, carbohydrate and protein, the distribution of carbohydrate as sugars and starch and of the protein as animal and vegetable proteins in the diet of 106 children studied by the lecturer. The proportion of 15 per cent of the calories as protein, 35 per cent as fat and 50 per cent as carbohydrate was strikingly constant. The optimum proportion of protein, fat and carbohydrate by quantity appears to be 1⅓. The sugar, which represented about half the total carbohydrate was distributed about equally between fruit sugars and cane sugar. About two-thirds of the protein was animal and one-third vegetable. The protein intake is about four grams per kilo at one year, after which it diminishes to 2.6 grams per kilo at six years, continuing at this figure until the end of the growth period.

FOURTH LECTURE

The vitamins were discussed. The danger of losing perspective because of the dramatic experimental effects observed and because of the wide publicity which these substances have obtained was emphasized. There are three recognized vitamins—the fat soluble, or vitamin A; the water soluble, or vitamin B, and the antiscorbutic, or vitamin C. These are indispensable for health and growth, and since the animal body cannot manufacture them they must be supplied in the food.

Vitamin A is present in animal fats, egg yolk, in liver and kidney tissues, and is particularly abundant in codliver oil. Vegetable oils contain practically none. It is also present in green vegetables such as cabbage, spinach and lettuce, and also in alfalfa and clover. The exact role of vitamin A in human nutrition, we do not know. Animals deprived of it cease to grow after a few weeks and suffer from sore eyes, which, if not treated, may be completely destroyed. A prompt cure occurs if a very small amount of butter or codliver oil is added to the diet. Similar symptoms have been observed in children occasionally.

Vitamin B is found in nearly all our foods in varying amounts. It is abundant in eggs, meats, seeds, vegetables, fruits, milk and in brewer's yeast. It is not injured in cooking or drying, but is removed from wheat in the process of milling, so that it is practically absent from white wheat flour. In animals, deprivation of this vitamin leads to muscular weakness and paralysis. In man it leads to beri-beri.

Vitamin C, the antiscorbutic, is found chiefly in fruits and vegetables. Citrus fruits, cabbage and tomato are rich sources. It is nearly always injured and may be destroyed during the preparation and preservation of foods, though the sus-

ceptibility to heat varies. Dried cabbage, dried tomato and canned tomatoes are efficient antiscorbutics as also is dried orange juice or lemon juice, even when kept for a long period in sealed packages. In milk this vitamin is present in very small amounts, so that two quarts of milk contain only as much as one ounce of orange juice. Pasteurizing, sterilizing, boiling, drying or condensing injures this vitamin in milk to a greater or less degree so that the only safe rule is, when milk that has been heated in any one of these ways is used, to give some antiscorbutic such as fresh fruit juice or tomato juice. Half an ounce a day given regularly is sufficient to protect most infants. It appears that babies are born with a store of this vitamin sufficient to last five to eight months. It is important to remember that when enough vitamins are provided in the diet to avert the diseases caused by vitamin deficiencies this is all that can be accomplished by them. Giving greater amounts cannot accomplish further results. The use of vitamins without definite indications will be popular for a time like other fads. It is important to note that modern transportation conditions have made it necessary to refine and preserve foods (thus destroying much of the natural vitamin content) in order that large centers of population may be fed and may have reserve stores of food, hence the necessity for the use of a certain amount of fresh foods containing vitamins in our diet.

FIFTH LECTURE

The fifth lecture was devoted to a general consideration of how defects in nutrition can be met and overcome. Having considered the low standards of nutrition, which we have permitted to exist among children and other consequences in adult life, how can improvement be effected? The greatest agencies for promoting reform along any line are publicity and education. In child work we must combat not only the ignorance of the ignorant but, to quote Chesterton, the ignorance of the educated.

Malnutrition may be briefly defined as a condition in which a child has failed to reach the degree of physical development which may be considered normal for his age. The best simple standard is the weight and height, especially the weight for the height, which has been reached at any age, and the rate of increase in height and weight which is made each year.

Among the causes of failure to obtain normal physical development are bad inheritance, premature birth, previous acute or chronic illness, physical defects such as carious teeth, enlarged or diseased tonsils or adenoids. Failure in nutrition may be the first sign and only obvious symptoms of tuberculosis, nephritis, cardiac disease or grave anemia. The great majority of cases are due to improper food or faulty hygiene. Dietary defects are characterized by lack of essential elements of growth such as an adequate supply of high grade protein, a liberal amount of fat, an ample supply of mineral salts for bone and the three vitamins. All these are provided if reasonable quantities are given of milk, cereals, green vegetables and fruit, but they are not present in coffee, white bread or sweets. Bad habits, which adversely affect nutrition, are eating at irregular times, eating sweets and other trash between meals and rapidly eating without mastication.

Examples of faulty hygiene are overcrowding, lack of fresh air in sleeping rooms and school rooms, lack of opportunity for outdoor play, late hours with insufficient sleep, no opportunity for rest in the middle of the day after the third or fourth year, over activity with either too much work or too much play, so that no food is left for growth, habitually bad posture and chronic constipation from lack of regular habit.

As a criterion for under-nutrition the lecturer takes 10 per cent below the average weight for height under the age of twelve years with a somewhat larger allowable variation during the period of adolescence. Age must be taken into consideration since of two children of the same height the older is normally heavier. Two types of undernourished children may be distinguished; first, the dull, listless child who is easily fatigued and has poor muscular development and flabby tissues; second, the ambitious, excitable over-active child, hard to manage, who sleeps poorly and has good muscular development but little or no subcutaneous fat. Normal children occasionally fail to gain for a period of a few months, but a stationary weight, for a prolonged period or steady loss at any time, should never be disregarded. There are between six and ten millions of undernourished children in the United States in which four-fifths of whom the condition is remediable. The treatment is both preventive and remedial, the former being vastly the more important. Preventive treatment includes eugenics, suitable prenatal care, maternal nursing and the best infant feeding and hygiene. The child should receive better care than he does between the second year and the time he goes to school. He should be weighed at regular intervals and his diet and life should not be the same as those of the older members of the family. He should have a general physical examination by a physician every six months and the records thus obtained with those of his weight could be made available at the time of school entrance to the teacher and school physician. On school entrance every child should have a thorough physical examination in the presence of the parents by the school physician who would note any abnormalities and would then have a sound basis for planning school hours, work, exercise and athletics. While an examination of every school child at the beginning of each school year is desirable it is perhaps not feasible at present, but certainly a physical and mental examination should be required of every child whose school work falls much below the average. More can be accomplished by health education than by any other means. This must be directed to the children rather than to their parents, and it should be begun at an early age. It can be done better in the school than in the home. In school the child expects to be taught and what he learns has an authority which home teaching, with its don'ts and you mustn'ts, does not possess. The vital point is to make health attractive and its aim should be to make the child form proper habits. Those stressed by the Child Health Organization of America are as follows:

A full bath more than once a week.
Brushing the teeth at least once every day.
Sleeping long hours with windows open.
Drinking as much milk as possible, but no coffee or tea.
Eating some vegetables or fruit every day.
Drinking at least four glasses of water a day.
Playing part of every day out of doors.
A bowel movement every morning.

How to get the children to adopt them? Health talks do not suffice. We must not make work of our health teaching in the school, but seek to make it play, for we can get children to do almost anything if it is made play. We should aim to get into their minds that health, too, is a game, with its rules like other games; a game that one can win or lose according as he obeys the rules. The play motive is the most successful one up to the ages of ten or eleven. Unless the child is interested, it is hopeless to attempt to influence him, so we begin if we can with something which is dramatic and which will catch the child's interest, like Chi-Cho, the health clown, the Health Fairy, the Jolly Jester or some of the other dramatic characters of the Child Health Organization, who

introduce health teaching under the guise of amusement or entertainment.

Those who see in this modern movement for the health education only amusement for an hour have not grasped the point. These things are only the beginnings, the first lessons in health—kindergarten lessons if you will—but they are based upon sound psychology; before you can influence you must interest.

Much can be done by health plays, poster exhibits, poster contests with prizes, health rhymes to interest the child, but the best means at all ages is the use of weight and height measurements. This should be done in the school room. It is, of course, necessary that scales should be in the schools and that weights be taken regularly during the school year, usually once a month. The weights for the children of a single room may be entered upon a large chart hung in a conspicuous place. Opposite the initial weight, the average weight for the height is recorded so that the child can see where he stands, and what progress he is making each month.

One must see one of these monthly weighings properly conducted to appreciate their significance. They are made important occasions, and the interest of the children is often intense. The scales are placed at the point of the weight taken the previous month and when a child steps upon the platform eager eyes watch whether the bar will rise or fall, indicating a gain or loss for the month. When the weighing is finished one teacher addresses her children somewhat as follows:

"Now will every child in the room who is up to normal weight for height stand up.

"Children, I could tell it by your looks; by your bright eyes and rosy cheeks, by the work you did in school this month; by the way you play at recess, etc., etc."

All, of course, are delighted and very much pleased with themselves.

"Now, will every child who gained in weight last month, stand."

More words of commendation follow, then the teacher says to a group: "Now won't you tell us how you did it." Many hands go up as each wishes to relate his own personal experience.

When a child is found at the monthly weighing much under weight or not gaining he is anxious to know why. He wants to be in the healthy group. Now is the opportunity to stress the health rules.

Children become vitally interested in their progress. They are then ready to understand and anxious to follow the rules, to submit to medical examination, to have tonsils, adenoids and teeth removed. Health records go home and arouse the interest of parents who will see that a suitable diet and good home habits are of importance.

It is not necessary or desirable that health be taught as a separate subject in the schools, but that it should be brought into the teaching of the various common subjects. It can be introduced illuminatingly into the teaching of such things as history, geography, arithmetic, drawing and composition. A debate could be arranged with the subject: Resolved that the City of San Francisco should furnish half a pint of milk a day at morning recess to every child in the public schools. Think what an opportunity to teach those who take part in such a debate the uses and value of milk. And what a chance to educate the school superintendent if he could be induced to act as one of the judges on such a debate.

Very little apparatus is needed, scales being perhaps the only expensive article. The lecturer remarked that it is not too much to say that the scales have saved the lives of more children than any new device of treatment, medical or surgical. The teacher needs no great special training—mainly enthusiasm and an understanding of children.

Nutrition classes will always be necessary for those so far below normal as to need special attention. Good nutrition classes are impossible without medical assistance. A thorough physical examination is essential. Co-operation with good children's clinics is desirable for investigation and treatment of physical defects and the services of a school nurse are also essential. A desire for improvement must be awakened in the child and this is best done in groups with graphic weight records. Competition is aroused by seeing the progress of other children. Regular attendance is necessary. The school is the best place for nutrition classes. Children should not be taken out of school unless absolutely necessary, but study, exercise and rest should be adjusted to the needs of the child. When he has reached the proper weight for height he may graduate with some ceremony and be given a certificate. To be successful nutrition classes must have a trained enthusiastic, resourceful personnel who understand children.

In conclusion the lecturer submitted three propositions which seem to be very clearly established:

1. Every health movement, which is to bring permanent results, must have an educational basis.
2. The health education of the future must be directed to the teaching of the children.
3. This education must be done in the schools. To initiate this program is the work of the physician. To carry it out is the task of the school authorities.

THE REJUVENATION OF MEDICAL ETHICS

By FRANK B. WYNN, Journal of the Indiana State Medical Association, December 15, 1921, page 422

Dr. Wynn's article should be read and pondered by every physician everywhere, and it ought to be read by the public.

Perhaps there is no phase of medicine concerning which there is so much misinformation as concerning the commonly designated "Code of Medical Ethics."

"It represents a most commendable effort on the part of the intelligent and progressive elements of medicine, to conserve the idealism of the medical past. It seeks to elevate the standards of practice and scientific attainment, of gentlemanly and moral conduct, for the benefit of the patient first of all; for the mutual instruction and elevation of the profession; and in the interest of the public weal."

As the Decalogue was to the ancient Hebrews, so let the profession of medicine find light and guidance in a revival of "The Ten Commandments of Medical Ethics."

The Ten Commandments of Medical Ethics

(Quoted from Dr. Wynn's Article)

I. REVERENCE AND RESPONSIBILITY

Remember thy Creator in the days of professional youth. Bow reverently before the wonderful human body, silk or well, as thou wouldst before a sacred shrine, conscious of thy high duty; resolved to serve to the best of thy power, whether the patient be black or white, prince or pauper, saint or degenerate.

II. HISTORIC APPRECIATION

Honor thy father and thy mother. Likewise give praise to the fathers in medicine, whose rich heritage of scientific and clinical truth has been handed down to thee through centuries of patient toil. Hold fast to that which is good, but let not prejudice, coming out of the past, blind thy vision to the newer truths of medical advancement.

III. KEEPING THE FAITH

Thou shalt not worship the graven images of false practice—of avarice and selfishness which eat at the very heart of medical idealism; of clever

artifice or brazen quackery which knowingly deceives; of erratic isms and cults which tell but half truths, leading the ignorant and unwary astray.

IV. INVIOLABLE CONFIDENCES

Thou shalt not disclose the secrets confided to thy keeping by trusting patients unless they be of criminal or treasonable import. Nor shalt thou abuse the professional intimacy granted to thee by women, which becomes a professional and moral obligation thou shouldst hold inviolate.

V. THE SANCTITY OF LIFE

Thou shalt not hazard life unwarrantably; neither shalt thou shrink before the obvious perils of duty when life is at stake. The unborn shalt thou not destroy except after due consultation, it is deemed advisable for the larger saving of life. Suffer not death to come through neglect in care of the sick, nor from failure in reading, study and counsel to gain the greatest benefit for the patient.

VI. PROFESSIONAL CO-OPERATION

Thou shalt not bear false witness against a worthy professional brother, but seek ever to protect his good name from calumnious attack by misinterpreting laymen. Of thy knowledge give him unstintingly, counseling and co-operating for medical progress.

VII. GENTLEMANLY CONDUCT

Thou shalt not prate of cases nor countenance unseemly boasting of thy achievements in the lay press. Always be a gentleman, let thy conduct be reserved but without cowardice; courteous but free from flattery; dignified but of warm heart; tender in ministration but firm in command; clean of body, speech and mind.

VIII. HONESTY IN BUSINESS

Thou shalt not steal; neither shalt thou make extortionate charges nor deceive by the secret division of fees. As a laborer worthy of hire exact fair compensation, but by open methods and with conscience void of offense toward thy fellowman.

IX. OBLIGATION TO ONE'S OWN

Take heed of the morrow for the sake of thine own flesh and blood. Therefore, shalt thou keep orderly accounts, collecting from the full-handed just recompense for services rendered. To the poor and the families of deserving colleagues, thou shouldst account it a privilege to render faithful attention.

X. PERSONAL AND PUBLIC SERVICE

Remember thou art thy brother's keeper—physically, in the measures and remedies advised for the prevention, alleviation or healing of disease; spiritually, in the cheer thou bringest to heavy hearts and the courage thou givest to halting steps. So walking upright before man, mayest thou shew thyself approved unto God. Thus journeying toward life's end, if not singing with the Psalmist "My cup runneth over," thou wilt at least be sustained by the reflections of "A workman that needeth not be ashamed."

Life Insurance—This issue of the Journal carries the card of Miss Edee H. Percival as a life insurance solicitor. Miss Percival has the endorsement of a number of leading men of our profession as being both capable and interested in giving to physicians the very best advice in placing life insurance policies.

Radiologists Liable—The Supreme Court of Arkansas has recently held that radiology (roentgenology) is a highly technical profession and that the radiologist, and not the physician, is liable for his acts. A more extensive review of this decision is published in a recent number of the Literary Digest.

EXTENSION WORK

The following additions have been made to the Extension Lecture courses offered by members of the State Society to local societies: (See November Journal for other lectures, page 450.)

MILEY B. WESTON, M.D.,
686 Flood Building, San Francisco.

I—**Urethritis and Its Complications.** (Illustrated by lantern slides.)
1. The Anatomy and physiology of the urethra.
2. Etiology: specific and non-specific urethritis.
3. Pathology.
4. Symptoms: acute and chronic.
5. Complications: stricture, prostatitis, vesiculitis, verumontanitis, cowperitis, stricture of ejaculatory ducts, epididymitis, etc.
6. Treatment: medical and surgical.

II—**Prostatism.** (Illustrated by lantern slides.)
1. The anatomy and physiology of the prostate.
2. Prostatic calculi.
3. Prostatitis: (a) acute; (b) chronic.
4. Tuberculosis of the prostate.
5. Prostatic hypertrophy, benign.
   (a) Etiology and pathology.
   (b) Symptoms.
   (c) Diagnosis.
   (d) Treatment: (1) Palliative; (2) Operative.
6. Cancer of the prostate.
   (a) Diagnosis.
   (b) Treatment:
      (1) Radium applications.
      (2) Operation: Conservative, Radical.

III—**Diseases of the Bladder:** Symptoms and Treatment. (Illustrated by lantern slides.)
1. The anatomy and physiology of the bladder.
2. Malformations of the bladder: diverticula, multiple bladders, fistulae, etc.
3. Disturbances of urination:
   (1) Mechanical obstructions;
      (a) Hypertrophy of prostate.
      (b) Contracture of vesical neck.
      (c) Median bar.
      (d) Hypertrophy of the trigone.
      (e) Tumors.
      (f) Stones, foreign bodies, etc.
   (2) Incontinence;
      (a) Nocturnal enuresis.
      (b) Parodoxical incontinence (C. N. S.).
      (c) Impaired vesical sphincters.
   (3) Infections (cystitis);
      (a) Acute, subacute and chronic.
      (b) Ulcerative and interstitial.
      (c) Tuberculous.

IV—**Diseases of the Kidney and Ureter:** Symptoms and Treatment. (Illustrated by lantern slides.)
1. The surgical anatomy and physiology of the kidney and ureter.
2. Congenital malformations.
3. Traumatic injuries.
4. Hydronephrosis.
5. Movable kidney.
6. Stones, tumors, etc.
7. Pyogenic infections: Pyelitis, Pyelonephritis, etc.
8. Tuberculous.
9. Kidney impairment (back pressure from prostate, etc.).
10. Kidney suppression (anuria).

"The Cornell Pay Clinic may not have employed a press agent, but the publicity achieved by it was very impressive. The arguments advanced to justify the establishment of such a clinic are of the most specious character, and assume first of all that the medical profession is composed of morons.

"Sometimes one does wonder, we are bound to confess, whether the aforesaid assumption is not the correct one."—From The Medical Times, January, 1922.

I pity no man because he has to work. If he is worth his salt, he will work. I envy the man who has a work worth doing, and does it well. There never has been devised, and there never will be devised, any law which will enable a man to succeed save by the exercise of those qualities which have always been the prerequisites of success—the qualities of hard work, of keen intelligence, of unflinching will.—Theodore Roosevelt.

COUNTY SOCIETIES

Alameda County Medical Association (reported by Dr. C. L. McVey, secretary)—The society met December 19, 1921, in the Oakland Health Center. Q. O. Gilbert, M. D., read a paper on "Some Technical and Therapeutic Considerations in Blood Transfusions." He briefly reviewed the history of blood transfusion, emphasizing the points in technic of interest in relation to present procedures.

Special emphasis was laid upon the selection of a donor, and the necessity, not only of grouping the donors and patients, but also that it is quite essential to test the donor and donee directly against each other, even though they are of the same group. The condition of para iso haemagglutins was discussed.

While the usual conditions for transfusion were discussed, special emphasis was placed on the use of transfusions to combat the toxemia and anemia occurring in acute infections. The author considers the whole blood transfusion without the use of anti-coagulants the best.

C. O. Edwards, D. D. S., read a paper on "The Method of Rebuilding the Muscles of Facial Expression After the Loss of Natural Teeth." Lantern slides served to illustrate the important points in the paper. Before the operation of extraction of teeth is performed, measurements of the face should be on record. Measure in millimeters the distance from the chin to nose, from chin to center of pupils of the eyes, from cutting edge of upper incisor teeth to pupils of the eyes, and from lower edge of upper lip to eyes. The next step is to make a templet from a heavy card, mark and cut out to fit over forehead, nose, lips and chin at the median line, so that the muscles of the face can be accurately re-established. A line is now drawn on the natural teeth to mark the position of the lip at rest, when speaking, smiling and laughing. The next step is to take plaster impressions like those used by orthodontists, of the upper and lower teeth. After operating, the natural teeth are sterilized and placed in these impressions and a model made giving us the original in the same relative position as they were in the mouth.

The patient should exercise the muscles of the face frequently. Artificial dentures should be completed and worn within from one to three weeks after the extraction.

The society is proposing a change in the constitution relative to the election of applicants to the society, to read as follows:

Article IV, Section 1. Every legally registered physician having resided and practiced in Alameda County for one year next preceding the date of making application who is of good moral and professional standing, and who does not support or practice or claim to practice any exclusive system of medicine, shall be eligible for membership.

The following officers were elected for the ensuing year: Dr. E. E. Brinckerhoff, president; Dr. Pauline S. Nusbaumer, vice-president; Dr. C. L. McVey, secretary-treasurer.

Alameda County Medical Association—Officers for 1922: President, Dr. E. E. Brinckerhoff; vice-president, Dr. Pauline Nusbaumer; secretary-treasurer, Dr. C. L. McVey; councillors—Dr. L. P. Adams, Dr. Daniel Crosby, Dr. A. M. Smith, Dr. A. M. Meads, Dr. G. G. Reinle, Dr. W. H. Strietmann; delegates—Dr. C. L. McVey, Dr. P. S. Nusbaumer, Dr. W. H. Strietmann; alternate delegates—Dr. L. P. Adams, Dr. W. A. Clark, Dr. C. A. De Puy, Dr. R. A. Glenn, Dr. Gertrude Moore, Dr. C. W. Page.

Fresno County Medical Society (reported by Dr. Thos. F. Madden, secretary)—The January meeting, which was the annual meeting, resulted in the election of the following officers for the year 1922: President, Dr. G. W. Walker; first vice-president, Dr. F. J. Tillman; second vice-president, Dr. A. D. Ellsworth; secretary, Dr. Thos. F. Madden; treasurer, Union National Bank of Fresno; assistant secretary, Dr. F. K. Pomeroy; Board of Governors, Dr. D. H. Trowbridge; delegates, Drs. J. R. Walker, W. W. Cross, H. J. Craycroft; alternates, Drs. J. H. Pettis, Guy Manson, A. B. McConnell.

Dr. Edmund Butler of San Francisco presented the subject of "Brain Injuries—Mechanics—Prognosis and Treatment." Drs. Clinton Collins, F. J. Tillman, L. P. Fleming and D. H. Ransom joined in the discussion of the subject.

The society expressed in the form of a resolution the deep regret of its members at the death of Dr. A. R. Nicholson on December 18. The sympathy of the society was extended to the bereaved family, and a copy of the resolution placed upon the society's minutes. Dr. Nicholson was one of the pioneer members of the Fresno County Medical Society, took an active interest in its welfare and the welfare of the community in which he served as a beloved physician.

The surgical staff of the Fresno County Hospital is holding bi-monthly meetings, each meeting conducted by a different member of the staff. Some of the meetings are devoted to bedside clinics, and all are working for the good of the profession, hospital and the public.

Merced County Medical Society (reported by Brett Davis, M. D., secretary)—The regular monthly meeting for January was held in the office of the secretary. There were seven members of the society present and two visitors. Roland B. Tupper, M. D., of the Fresno County Society presented a paper on "Basal Metabolism and the Thyroid Gland."

The improved appearance of the California State Journal of Medicine and the increase in value of its medical literature was the cause of comment by members of the society.

Wm. C. Cotton, M. D., has been appointed County Health Officer of Merced County to succeed J. L. Mudd, M. D., who has resigned.

Monterey County (reported by Dr. T. C. Edwards, secretary)—At the annual meeting held January 7, 1922, the following officers were elected for the year 1922: President, Chas. T. Bullard, M. D., King City; vice-president, Geo. A. Starbird, M. D., Soledad; secretary, T. C. Edwards, M. D., Salinas; treasurer, John A. Beck, M. D., Salinas; delegate to the State Meeting, Henry J. Koenecke, M. D., Salinas; alternate to the State Meeting, W. R. Reeves, M. D., Salinas.

The History of Medicine—Dr. C. D. Ball of Santa Ana is writing a history of the pioneer physicians of Orange County. The council of the State Medical Society is interested in securing histories of this type of the organizers of medicine by counties throughout the State of California. Any physician who wishes to handle this matter for his own county is requested to communicate with the State secretary.

Riverside County Medical Society (reported by Thomas A. Card, M. D., secretary)—The January meeting was held in the Chamber of Commerce rooms with twenty-six members and sixteen guests present, and twenty members absent.

The site for the new Community Hospital has been definitely chosen, and it is the purpose of the directors to begin building very soon.

W. B. Wells, M. D., has resigned as City Health Officer, and his successor has not been appointed.

Ethel Watters, M. D., of the State Board of Health, in conjunction with the Well Baby Conference, is arranging to hold a series of clinics in various towns to which mothers may bring their babies for examination. Talks to mothers on the care of babies and proper diet will be given. Patients who need medical advice will be referred to their family physician.

The Department of Hygiene of Riverside County is working in conjunction with the physicians of various towns in an effort to make medical examinations of all school children. The Department of Hygiene proposes to install the hot school lunch routine; teach health in schools as part of the daily program; to interest the children in the lives of great physicians, and acquaint them with quarantine laws and health regulations.

A newspaper clipping from Riverside quotes the Medical Society as making an effort to secure the services of a full-time health officer for Riverside County.

Sacramento County (reported by Dr. G. J. Hall)—The annual meeting of the Sacramento Society for Medical Improvement was held on Tuesday, December 20.

An amendment to the Constitution and By-laws was passed. Dr. G. J. Hall was re-elected secretary. Six directors were elected for the coming year, as follows: Drs. Schoff, Howard, Dillon, Foster, Pope and Henderson. Delegates to State Society, E. C. Turner and E. T. Redison, Jr. Two alternates were elected in the persons of Drs. James and Drysdale. One member of executive committee to be elected; result, Dr. S. E. Simmons re-elected.

The annual dues were changed from $12 a year to $15 in order to send the secretary to all State Medical meetings in the future. Carried.

At a special meeting called January 4, 1922, for the election of a president and vice-president, Dr. G. P. Dillon was elected president and Dr. B. F. Howard, vice-president, by the board of directors.

San Bernardino County Medical Society (reported by Dr. E. J. Eytinge, secretary)—The January meeting was held at the County Hospital with thirty members and ten visitors present and forty-one members absent. Doctors W. A. Jones, W. S. Davis and C. Van Zwalenburg discussed the "Eary Diagnosis of Intussusception." Dr. C. P. Thomas of Los Angeles presented the subject of "The Treatment of Cancer of the Anus, Rectum, and Colon." Discussions of these papers were opened by Dr. C. G. Hilliard and Dr. P. M. Savage. The staff of the County Hospital exhibited and discussed a number of clinical cases.

San Francisco County Medical Society (reported by Dr. LeRoy H. Briggs, secretary)—The annual meeting of the society was held on December 13, when the following officers were elected: President, Dr. Saxton Pope; first vice-president, Dr. Rene Bine; second vice-president, Dr. Mary E. Botsford; secretary-treasurer, Dr. LeRoy H. Briggs; librarian, Dr. Leo Eloesser; directors, Drs. Rene Bine, W. W. Boardman, W. R. P. Clark, H. W. Gibbons, Sol. Hyman, Wm. Ophuls, R. K. Smith; delegates, Drs. W. C. Alvarez, M. O. Austin, W. W. Boardman, Leo Eloesser, G. H. Evans, W. S. Franklin, H. P. Hill, Sol. Hyman, E. S. Kilgore, Lovell Langstroth, Howard Morrow, Wm. E. Stevens, W. I. Terry, V. G. Vecki, C. F. Welty; alternates, G. G. Moseley and Harry Spiro.

The scientific program of the annual meeting included a paper on "Etiology and Treatment of Asthma in Children," by Dr. A. H. Moore, and "Nose and Throat Pathology as Etiological Factors in Asthma," by Dr. E. C. Sewall. These papers were discussed by Drs. A. J. Houston, S. H. Hurwitz, C. F. Welty, Sanford Blum and P. H. Pierson.

At a special meeting held on December 30, Dr. Julius Rosenstirn addressed the society on "The Relation of Parasitic Infection to the Growth of Cancer in Animals."

San Francisco County Medical Society—President Saxton Pope and Secretary LeRoy H. Briggs have issued the following circular to all physicians in San Francisco:

"The Medical Society is a private, voluntary organization. It is an association in which the best medical men should be. It stimulates the mind to greater effort and to raise medical standards, both ethically and scientifically. Active membership in the Medical Society wears off the sharp edges of professional jealousy; through it one becomes respectful of his professional brother—discovering the good points of the other man. An active part in the Medical Society will make a more liberal and diligent student, practitioner, or leader. The association of medical minds promotes initiative in research work and the exchange of ideas. Membership in the Medical Society popularizes progressive and medical thought. The medical men are so highly specialized, that if they cannot bring themselves into a harmoniously organized group for study, no one can do it for them. Having chosen association with such a group, there is no question but that the affiliation gives prestige in return."

San Diego County Medical Society (reported by Dr. Robert Pollock)—The annual dinner of the Medical Society was held at the San Diego Hotel on the evening of December 13, 1921. After an enjoyable banquet the president announced the results of the election of officers for 1922:

President, W. W. Crawford, M. D.; vice-president, J. F. Churchill, M. D.; secretary, Geo. B. Worthington, M. D.; treasurer, C. L. Stealy, M. D.; for councillors, M. H. Arnold, M. D., J. E. Jennison, M. D., H. A. Thompson, M. D.; for delegates, C. M. Hosmer, M. D., T Coe Little, M. D., J. C. Yates, M. D.; for alternates, J. C. E. Nielsen, M. D., E. H. Crabtree, M. D.; for Milk Commission, Frances M. Allen, M. D., R. A. Kocher, M. D.; directors of the medical library, M. H. Arnold, M. D., F. A. Burton, M. D., T. Coe Little, M. D., H. P. Newman, M. D., Robt. Pollock, M. D., L. H. Redelings, M. D., P. C. Remindino, M. D., C. L. Stealy, M. D., H. A. Thompson, M. D., C. H. McConaughy, D. D. S., H. L. Murdock, D. D. S., Guy V. Smith, D. D. S.; secretary-treasurer, C. L. Stealy, M. D.

The January meeting was devoted to the reports of the retiring officers and the installation of the officers for 1922. Humorous case reports were made by men of eminence in the profession.

San Diego members are planning to attend the Yosemite meeting of the State Society in liberal numbers.

Group Medicine: One of the recent meetings of the San Diego County Medical Society was devoted to the discussion of Group Medicine. The subject was discussed by Drs. Donald Frick, Charles D. Lockwood, H. A. Johnston and others. A rather full report of this meeting will be found in Vol. 7, No. 19 of the Bulletin of the San Diego County Medical Society. Persons particularly interested in the subject should read this Bulletin.

San Joaquin County Medical Society; Annual Meeting (reported by Dr. Dewey R. Powell, secretary)—The annual meeting of the San Joaquin County Medical Society was held in the White Room of the Hotel Stockton on Friday evening, December 9, at 7 o'clock, at which time a delightful dinner was served and the members enjoyed the first social evening held by the Medical Society in many years. The following members were elected directors for the ensuing year:

Dr. C. R. Harry, Dr. F. P. Clark, Dr. R. T.

McGurk, Dr. J. D. Dameron, Dr. L. R. Johnson, Dr. B. J. Powell, Dr. D. R. Powell, Dr. Hudson Smythe and Dr. Margaret Smythe. The following officers were chosen from the board of directors: Dr. Hudson Smythe, president; Dr. J. D. Dameron, first vice-president; Dr. Margaret Smythe, second vice-president, and Dr. Dewey R. Powell, secretary and treasurer.

Dr. Saxton Pope, Assistant Clinical Professor of Surgery at the University of California and president-elect of the San Francisco County Medical Society, spoke on "Hunting Wild Game with the Bow and Arrow," and illustrated his remarks by numerous lantern slides. He told of his first interest with the bow and arrow, due to his association with the Indian Ishi, the last of the Yani tribe, and how he had been taught by Ishi both to shoot and to hunt. He showed slides of various types of wild game, such as squirrels, quail, wildcats, mountain lions and deer which had been brought down by the bow and arrow, and vividly described his hunt in Yellowstone Park, where he and his companions secured five grizzly bears, including one 1000-pound bear known as the largest in the United States.

The social nature of the annual meeting was voted quite a success and it was the consensus of opinion that the society should hold at least one social evening each year.

Santa Clara County Medical Society (reported by Dr. J. L. Pritchard, secretary)—The December meeting was the annual business meeting of the society. The following officers were elected for 1922:

President, R. T. Wayland; first vice-president, F. S. Ryan; second vice-president, R. G. Reynolds; ahird vice-president, Jonas Clark; treasurer, H. C. Brown; secretary, E. P. Cook; councillors, J. J. Beattie, T. L. Blanchard, C. E. Saunders; delegates, G. L. Barry, C. Wayland, J. H. Shephard, C. E. Saunders; alternates, J. S. Staub, D. Wilson, F. S. Ryan, G. A. Gray.

Dr. J. Underwood Hall was transferred to San Francisco and Dr. Chas. W. Delaney transferred to Altoona, Pennsylvania.

The O'Connor Sanitarium was recently overhauled, the laboratory adding all necessary equipment to do first-class work. The hospital has also provided a record room and installed a record clerk.

Santa Cruz County Medical Society; Annual Meeting (reported by Dr. James Cutter)—The annual meeting of the Santa Cruz County Medical Society was held December 17 with nine members present. The officers elected for the ensuing year were: Dr. H. G. Watters, president; Dr. Stanley Dowling, first vice-president; Dr. James B. Cutter, second vice-president, Dr. A. N. Nittler, secretary and treasurer; Dr. P. T. Phillips, delegate to the State Society; Dr. E. Lee Burch, alternate; Dr. J. B. Cutter, corresponding editor; Dr. S. C. Rodgers, censor for 1924.

Dr. Cothran discussed "The Effects of Alcohol Upon the Gastric Mucosa and the Cerebral Cortex of Rats."

It was voted to hold future meetings every three months at Watsonville.

Stanislaus County (reported by Dr. E. F. Reamer, secretary)—The annual meeting was held on December 15 at the Modesto Hotel. The usual annual dinner and business meeting were held and no scientific papers were presented. There were fifteen members present and twnty-three absent, the large number of absentees being explained by the disagreeable weather. The following officers were elected for the ensuing year:

President, Dr. A. M. Field; vice-president, Dr. J. K. Ransom; secretary-treasurer, Dr. R. E. Maxwell; censor three years, Dr. F. R. DeLappe; delegate to State Society meeting, Dr. E. F. Reamer; alternate, Dr. John A. Cooper.

Certain members of the society requested information as to the advisability of changing their by-laws so as to require six months' residence before a candidate shall be eligible for active membership.

Note: The answer from the State Society is as follows: It seems to be the general opinion among our most experienced men that a time limit is not adequate as a safeguard and is not necessary when more thorough investigation is made prerequisite to membership. It is suggested that if a change in the by-laws is to be made, a better change would be to provide that no physician could be elected to active membership in any county society until his application, in addition to the usual procedure, had received the certificate of his licensure and creditable standing with the State Board of Medical Examiners and the approval of the State Society office, which carries with it a review of the records of the A. M. A. headquarters in Chicago.

NOTICES

SECTION ON ANESTHESIOLOGY OF THE CALIFORNIA STATE MEDICAL SOCIETY AND THE PACIFIC COAST ASSOCIATION OF ANESTHETISTS.

By Eleanor Seymour, M. D., Secretary-Treasurer, 1329 South Grand Ave., Los Angeles.)

The Pacific Coast Association of Anesthetists will hold its first Scientific Meeting at Yosemite Park, Monday and Tuesday, May 15-16, 1922, in conjunction with the meeting of the Section on Anesthesiology of the California State Medical Society.

A splendid scientific program of pertinent papers is in the making for this occasion and the sessions will offer those in attendance every opportunity to acquire an intimate knowledge of what is best in the science and practice of anesthesia.

The Pacific Coast Association of Anesthetists was founded at Coronado in May, 1921, through the united efforts of the Southern and Northern California Societies of Anesthetists and other interested anesthetists of the Pacific Coast and Rocky Mountain States. At that time the constitution was adopted and officers for the first scientific meeting were elected.

Membership in the Pacific Coast Association of Anesthetists is open to all licensed and qualified members of the medical and dental professions, as well as to research workers holding doctorates of similar standing, who are interested in advancing the specialty of anesthesia.

The meeting will be held at Yosemite Park, and as a large attendance is expected you are advised to make your reservations now. You are afforded an opportunity of a wonderful sightseeing trip, as well as an unusual scientific meeting.

If you wish to present a paper during the meeting or section, kindly notify the secretary at once, giving the title and brief abstract of same.

Send for and fill in the details of a membership application and return it with your check or money order for the annual dues ($5), so that your membership card may be sent you in advance of the meeting. Also be sure and send the names and

addresses of as many prospects for membership as you may know of.

Details regarding the annual dinner of the association and other entertainments will be sent later with the preliminary program.

The following officers and executive committee will be in charge of the Yosemite meeting: George P. Waller, president; Mary E. Botsford, vice-president; Eleanor Seymour, secretary-treasurer; executive committee—Walter R. Crane, Caroline B. Palmer, R. L. Charles, D. E. Hoag, L. H. Maxson and Louise A. Oldenbourg.

The officers and executive committee will do everything they can to make this meeting interesting, instructive and enjoyable. Your cordial cooperation and support are solicited in launching the Pacific Coast Association of Anesthetists and the Section on Anesthesiology on successful careers for the benefit of all concerned.

This is an opportunity for all anesthetists of the Pacific Coast and Rocky Mountain States to find out what their associates know about the specialty of anesthesia and to exchange researches and clinical experiences, for the benefit of their specialty and in the interest of better surgery.

Industrial Accident Work—The Industrial Accident Commission under date of December 7 have issued a form letter to all physicians in the State, giving details regarding the requirements of the law and of the Industrial Accident Commission in the discharge of their duty. This letter is too long for publication in the Journal, but every physician engaged in work of this character and who has not already received a copy is advised to write to the Industrial Accident Commission for one. Particular attention is called to Section 53 of the Industrial Accident law, which reads in part as follows: "Every physician or surgeon who attends any injured employe, is hereby required to file with the commission, under such rules and regulations as the commission may from time to time make, a full and complete report of every injury to an employe arising out of or in the course of his employment and resulting in loss of life or injury to such person."

Popular Medical Lectures of Stanford Medical School—The fortieth course of these popular lectures will be given at Lane hall as follows: January 13, "The Basis of Modern Medicine," by Dr. William Ophuls; January 27, "The Attitude of the Public Toward the Blind," by Miss Katherine Foley; February 10, "The Treatment of Deformities Following Infantile Paralysis," by Dr. Arthur L. Fisher; February 24, "The Control of Botulism," by Dr. E. C. Dickson; March 10, "The Truth about Vivisection," by Mr. Ernest H. Baynes; March 24, "Present Day Methods of X-ray Diagnosis," by Dr. W. Edward Chamberlain.

Research in Homeopathic Medicine—The California State Homeopathic Medical Society has appointed Dr. R. W. F. Winnard, Dr. Milton A. Barndt, Dr. Edward P. Clark, Dr. George H. Martin, Dr. Robert F. Knoll, Dr. James D. Miller, Dr. F. H. Cookinham, Dr. Edgar H. Howell, Dr. Marion B. McAulay, Dr. Joseph Pollia and Dr. Henry L. Stambach as a committee on research for the California State Homeopathic Society.

The Western Section of the American Laryngological, Rhinological and Otological Society (reported by Dr. Grant Selfridge).—This section will hold a meeting in the San Francisco County Medical Society rooms on February 23. The morning will be devoted to surgical clinics at Stanford Hospital, and the afternoon to the discussion of scientific papers.

GENERAL SESSION AND SECTION OFFICERS FOR THE 1922 MEETING OF THE STATE SOCIETY

The list of the officers of the general sessions and the various sections of the State Society is published below, so that members desiring to contribute papers may have the names and addresses of the proper officers of the section in which they are interested. Members desiring to present papers should communicate without delay with the chairman and secretary of the appropriate section, because the program is getting well under way and will be closed and go to press the first week in February.

The Secretary of the State Society, as chairman of the General Program Committee, invites correspondence and suggestions regarding any phase of the 1922 program.

GENERAL SESSIONS

Chairman, Dr. John H. Graves, President of the Society, 977 Valencia Street, San Francisco.
Secretary, Dr. W. E. Musgrave, Chairman of the Program Committee, 912 Butler Building, San Francisco.

SECTION ON TECHNICAL SPECIALTIES

Chairman, Dr. Ray Lyman Wilbur, President Stanford University.
Secretary, Dr. Charles T. Sturgeon, Merritt Building, Los Angeles.

SECTION ON MEDICAL ECONOMICS, EDUCATION AND PUBLIC HEALTH
(League for the Conservation of Public Health)

Chairman, Dr. Dudley Smith (President League for the Conservation of Public Health), Thomson Building, Oakland.
Secretary, Dr. W. T. McArthur (Secretary League for the Conservation of Public Health), Security Building, Los Angeles.

SECTION ON INDUSTRIAL MEDICINE AND SURGERY

Chairman, Dr. E. W. Cleary, 177 Post Street, San Francisco.
Secretary, Dr. Packard Thurber, 906 Black Building, Los Angeles.

SECTION ON RADIOLOGY
(Roentgenology and Radium Therapy)

Chairman, Dr. Albert Soiland, 527 West Seventh Street, Los Angeles.
Secretary, Dr. H. E. Ruggles, Butler Building, San Francisco.

SECTION ON PATHOLOGY AND BACTERIOLOGY

Chairman, Dr. William Ophuls, Stanford University Medical School, San Francisco.
Secretary, Dr. Roy W. Hammack, Brockman Building, Los Angeles.

SECTION ON GENERAL MEDICINE

Chairman, Dr. Joseph M. King, Brockman Building, Los Angeles.
Secretary, Dr. E. S. Kilgore, 391 Sutter Street, San Francisco.

SECTION ON PEDIATRICS

Chairman, Dr. William Palmer Lucas, University Hospital, San Francisco.
Secretary, Dr. Hugh K. Berkley, Brockman Building, Los Angeles.

SECTION ON NEUROPSYCHIATRY

Chairman, Dr. Walter F. Schaller, 909 Hyde Street, San Francisco.
Secretary, Dr. W. B. Kern, Brockman Building. Los Angeles.

SECTION ON GENERAL SURGERY

Chairman, Dr. Charles D. Lockwood, 295 Markham Place, Pasadena.
Secretary, Dr. Edmund Butler, Butler Building, San Francisco.

SECTION ON EYE, EAR, NOSE AND THROAT

Chairman, Dr. Frank A. Burton, Watts Building, San Diego.
Secretary, Dr. Harvard McNaught, Butler Building, San Francisco.

SECTION ON UROLOGY

Chairman, Dr. George W. Hartman, 999 Sutter Street, San Francisco.
Secretary, Dr. Louis Clive Jacobs, 462 Flood Building, San Francisco.

SECTION ON ORTHOPEDIC SURGERY

Chairman, Dr. W. W. Richardson, Brockman Building, Los Angeles.
Secretary, Dr. G. J. McChesney, Flood Building, San Francisco.

SECTION ON ANESTHESIOLOGY

Chairman, Dr. Mary E. Botsford, 807 Francisco Street, San Francisco.
Secretary, Dr. Eleanor Seymour, 1329 S. Grand Ave., Los Angeles.

SECTION ON GYNECOLOGY AND OBSTETRICS

Chairman, Dr. Harry M. Voorhees, Brockman Building, Los Angeles.
Secretary, Dr. L. A. Emge, Stanford University Hospital, San Francisco.

HOSPITALS

SAN FRANCISCO HOSPITAL SURGICAL CLINICS

The public surgical clinics (Colloquia) held at the San Francisco Hospital, Potrero avenue and Twenty-second street, every Thursday morning from 9:00 to 12:00, by members of the staff of the Stanford University Medical School and San Francisco polyclinic, which were omitted during the holidays, were resumed on Thursday, January 12, the clinic being given by Dr. Emmet Rixford.

A Case of Spiral Fracture of the Humerus from Throwing a Baseball.

Dr. Rixford stated he had previously operated upon but one case with similar etiology, and this a number of years ago. In view of the great number of men and boys who play baseball, it is remarkable that this fracture does not occur more commonly.

Spiral fractures of the long bones are always the result of rotatory or twisting force. A right-handed twist always produces a right-handed spiral and a left-handed twist always produces a left-handed spiral. In the spiral fracture of the humerus produced by throwing a baseball, if the player is right-handed the right humerus is subjected to violent external and, therefore, left-handed torsion, uncomplicated by other forces. Here we have the purest form of spiral fracture practically without longitudinal displacement and without stripping up of the periosteum. In the typical spiral fracture the spiral fissure may extend as much as twice around the bone as was observed in the first case mentioned, the bone being finally separated into two fragments by a substantially vertical fracture uniting two adjacent limbs of the spiral. The periosteum is torn along the spiral part of the fracture, but not along the vertical component, because as the bone breaks it folds upon the vertical part of the fracture as on a hinge. For this reason, and in view of the form of the fracture lines and surfaces, it is evident that if the fracture is accurately reduced the bones fit together with mathematical nicety and considerable firmness, stability being lacking only in the direction of the rotation which produced the fracture. Therefore, if a splint can be so applied as to resist this rotation, displacement will not recur.

Since it is practically impossible to adjust such a fracture with such a degree of nicety as will secure the stability as above described without open operation, it is logical to treat all such fractures, except in young children, by the open method, unless there is some contraindication to operation in general.

In the operation, the aim should be to identify and locate the spiral element of the fracture, to cut down upon it, remove chips of bone, bits of muscle, fascia, etc., which interfere with accurate reduction; drill the bones at points which will be horizontally opposite each other across the spiral after reduction, passing a single silver wire, reducing the fracture and tightening the wire. This may be done in most instances without disturbing the periosteum in the least, and without producing more than a minimum of traumatism of the soft parts.

In the typical spiral fracture there is, therefore, no necessity of implanting large foreign bodies, Lane or other plates, screws, etc. The risk of infection, which is practically the only objection to operation in such cases, is minimized by this technique; specifically, by avoidance of unnecessary truama, stripping up periosteum, and implantation of more than a minimum of foreign material. Silver wire has on its part some antiseptic capacity, and is readily incorporated in the bone and almost never requires to be removed. It is much more reliable than kangaroo tendon.

The above facts and procedures were illustrated by the case in hand. After dressing the arm it was put up in a light splint and bound to the side, the forearm flexed across the abdomen.

Another argument for the above technique in the management of spiral fracture of the humerus, is the fact that the spiral not rarely follows the groove of the radial nerve (musculo-spiral), which nerve may most safely be protected against compression by callus, etc., by such an operation. If advisable, as it may be in some cases, a layer of fascia or muscle can be interposed between the nerve and the line of the fracture. If adjustment of the fracture is mathematically perfect, very little callus will be thrown out or will be required.

Tumor on the Right Side of the Neck, Just Above the Clavicle—Case for Diagnosis.

A man of sixty-three, beginning to lose flesh, somewhat below par in health and vigor, presented a tumor of rapid growth, the size of a man's fist, beneath the sterno-mastoid muscle, lateral to the great vessels, free from the clavicle, not evidently pulsating; not affecting the pulsation in the radial artery nor interfering with the venous or lymphatic return from the arm. No apparent engorgement of veins of the head; no interference with pulsation of carotid or temporal arteries; no interference with sensation or motion in the arm. The tumor was evidently infiltrating, attached to the deeper structures of the lateral aspect of the neck. No fever, growth not tender.

Malignant or inflammatory goiter ruled out by the position of the tumor lateral to the carotid artery; age of patient, absence of pre-existing goiter. Hodgkins' disease and lympho-sarcoma ruled out by the fact that the tumor was single and not multiple; fixed and not movable; blood picture normal. Absence of lymphomata in axilla, opposite side of the neck, etc. History of continuous enlargement of the growth without intermission such as is commonly present in Hodgkins' disease; also absence of intermitting fever; blood Wassermann negative.

If carcinoma, the primary tumor was most likely to be found in the œsophagus, lung, or some abdominal organ.

Carcinoma of the lung seemed unlikely, because of the absence of cough, sputum, and pulmonary signs. Aneurism excluded by the absence of pulsation in the tumor; absence of pain; as from bone erosion or pressure on nerves; absence of interference with pulsation in radial artery; absence of evidence of bronchial compression; rasping cough, stenotic breathing, etc.

Carcinoma of the abdominal organs only rarely gives rise to metastatic tumors in the right side of the neck.

The clinical history was completely negative as to symptoms of carcinoma of the stomach, gall-bladder or intestine; also negative with reference to œsophagus and larynx. Voice normal; deglutition also normal.

In view of the above, the most probable diagnosis was carcinoma of the lymph glands of the neck, secondary to primary tumor in the œsophagus, but œsphogoscopy, by Dr. H. B. Graham, showed the entire œsophageal mucous membrane to be free from ulceration or tumefaction.

Fluoroscopy, by Dr. Chamberlain, showed the œsophagus to be normal in form and motility except for a lateral deviation in the upper chest, where plates showed an indefinite shadow suggesting mediastinal tumor slightly displacing the œsophagus.

Exploratory incision, lifting off the sterno-

mastoid muscle, showed the tumor to be infiltrating and completely obstructing the jugular vein. The finger introduced beneath the clavicle and sternum showed the tumor to be free from the anterior chest wall and clavicle. It showed also an extension of the tumor downward into the chest beyond the reach of the finger.

The major portion of the tumor of the neck was then cut away, including the obliterated portion of the jugular vein. The pneumogastric nerve was found to be surrounded by tumor. It had evidently not been compressed sufficiently to interfere with motor function of the larynx.

On cross section, the tumor appeared to be sarcoma, possibly of fascial origin, but contained large areas of yellowish necrosis. Histological examination of the tumor by Dr. Ophuls showed the tumor to be carcinoma (malignant epithelioma), its origin not determined.

St. Joseph's Hospital of San Francisco announces improvements—Plans have been completed for the early construction of a new hospital of 300 beds. Staff organization has been provided with Dr. A. S. Musante as chief of the staff; Dr. W. C. Mackintosh, vice-president; Dr. L. Overstreet, secretary; Dr. F. C. Keck, treasurer; Drs. C. E. Taylor, Wm. Quinn, P. Collischonn, T. I. Janes, A. S. Musante and Wm. Mackintosh, executive council.

Children's Department of the Santa Barbara Cottage Hospital—The Cottage Hospital in Santa Barbara is in receipt of a gift of $50,000 for the establishment of a Children's Ward, and Mr. Knapp announces that he is going to raise additional money to build a new Nurses' Home for the hospital shortly.

Santa Barbara Cottage Hospital Clinic Day—Recently the Cottage Hospital staff carried out a whole day of intensive review and clinics, with a large number of physicians present. During the morning Surgical Clinics included five laparotomies by various members of the staff; the nose and throat men provided demonstrations and operations; an hour was given to demonstrations of X-ray work and of radium therapy; and the Chemical Laboratory demonstrated various blood chemical methods. Luncheon was served in the hospital. During the afternoon a medical program was given consisting of papers or clinical demonstrations by ten medical men of the staff. Some of the material presented consisted of cases or post-mortem specimens, and lantern slides of congenital syphilis, diabetic gangrene treated with sodium citrate; leprosy, heart block and linitis plastica. Also, during the afternoon major surgical procedures and operative eye work were carried on. The day closed with a banquet by the Santa Barbara County Medical Society to which the visitors were invited.

A Clinic Day of this character acquaints the various members of the staff with the work of their colleagues, serves as a decided stimulus for each man to improve the character and the technique of his work; it demonstrates the fact that even in smaller communities, good work over a considerable range of subjects is being done, and it further promotes a spirit of harmony and of team play among the members of the staff, which shows itself repeatedly in the every-day routine of hospital work.

The success of this undertaking by the staff of the Cottage Hospital and the compliments received from the physicians from various parts of the county who were present, is such, that they are already looking forward with enthusiasm to putting on a similar program within the coming year.

BOOKS RECEIVED

History of Medicine, With Medical Chronology, Suggestions for Study and Bibliographic Data, by Fielding H. Garrison, M. D., Lieutenant-Colonel, Medical Corps, U. S. Army, Surgeon-General's Office, Washington, D. C. Third Edition, Revised and Enlarged. Octavo of 942 pages with 257 portraits. W. B. Saunders Company, Philadelphia and London, 1921. Cloth, $9 net.

1920 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 1392 pages, 446 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, $12 net.

Pediatrics and Orthopedic Surgery. Practical Medicine Series. Edited by Edwin W. Ryerson, M. D., with the collaboration of Robert O. Ritter, M. D. Chicago: The Year Book Publishers. 1921.

Vice and Health (Problems, Solutions). By John Clarence Funk, M. A., LL. B. Philadelphia and London: J. B. Lippincott Company.

The Blood Supply to the Heart in its anatomical and clinical aspects. By Louis Gross, M. D., C. M. With an introduction by Horst Oertel. Twenty-nine full page plates and 6 text illustrations. New York: Paul B. Hoeber.

The Glands Regulating Personality. A study of the glands of internal secretion in relation to the types of human nature. By Louis Berman, M. D. New York: Macmillan Company. 1921.

Medical Clinics of North America. Volume V, Number 3 (November, 1921). Philadelphia Number. Published bi-monthly (six numbers a year), by W. B. Saunders Company, West Washington Square, Philadelphia. Price per year, $12.

Pathogenic Micro-organisms, a Practical Manual for Students, Physicians and Health Officers. By W. H. Park and A. W. Williams, assisted by C. Krumwiede, Jr. Seventh edition. Philadelphia and New York: Lea & Febiger. 1920. Price, $6.

The seventh edition of Pathogenic Micro-organisms, by Park and Williams, assisted by Krumwiede, maintains the high standard of previous editions as a book of reference and contains much of the more recent advances in laboratory technic and diagnosis.

The Surgical Clinics of North America (Issued serially, one number every other month), Volume I, Number 6 (The New York Number) 295 pages, including complete Index to Volume I and 122 illustrations. Per clinic year (February, 1921, to December, 1921). Paper, $12 net; Cloth, $16 net. Philadelphia and London: W. B. Saunders Company.

The Medical Clinics of North America, Volume V, Number 3 (The Philadelphia Number, November, 1921). Octavo of 362 pages, 44 illustrations. Philadelphia and London: W. B. Saunders Company, 1921. Published bi-monthly. Price per clinic year: Paper, $12; cloth, $16.

BOOK REVIEW

Operative Gynecology. By Harry Sturgeon Crossen. 699 pages, 834 illustrations. St. Louis: C. V. Mosby Company. 1920.

This book, already well known to those interested in this field of surgery, now appears in its second edition, enlarged and revised. Few, even those conversant with the literature of the subject, have probably realized the number and variety of operative processes suggested for gynecological conditions until they looked over a work like the present one, which speaks not only for the industry of the author, but likewise for his sagacity and broad grasp of this field of surgery. We know of no other work of such magnitude. It is both a work of reference and a handbook of practice.

Operative procedures have been carefully classified in relation to the anatomical structures involved; this is especially true of those for prolapse of the uterus and bladder, and retrodisplacement of the uterus. Particular attention has also been given to the consideration of the choice of operative procedures with reference to the pathological condition present; this is one of the most noteworthy and commendable features of the work. Detailed analysis of the merits of operative procedures has been fully developed; their indications and limitations carefully explained; and the technical steps fully described. The range of subjects covered in this volume includes about the whole province of operative gynecology, including chapters on certain fundamental disturbances, postoperative handling, and medico-legal questions. The book abounds with numerous good and well selected illustrations, very clearly illustrating the various steps in the various operations.

A. J. L.

Tuberculosis and How to Combat It. By F. M. Pottenger. 273 pages. St. Louis: Mosby Company. 1921.

The above book is a very comprehensive presentation of the whole subject of tuberculosis from the patient's point of view. It answers in understandable language the numerous questions which the patient is constantly asking his medical adviser. The author devotes several chapters to the incidence and etiology of tuberculosis and then explains to the patient the various symptoms and method of treatment. He lays particular stress upon the necessity of a rational co-operation between patient and doctor if results are to be obtained, explaining the pathology of the disease and the reasons for methods advised in language which convinces but does not frighten the patient.

The author's views on marriage of tuberculous patients are commendable because, "No matter whether they should or should not, some of them will." He, therefore, proceeds to explain under what conditions a tuberculous patient may marry, the disadvantage, but in certain cases the advantage.

Pottenger's book is one of the best popular versions of tuberculosis of the many already published and may be recommended to all patients afflicted with this disease. At the same time, the medical man will find its perusal very much worth his while.

W. C. V.

Principles of Medical Treatment. By Geo. Cheever Shattuck. 5th ed. Boston: W. M. Leonard. 1921.

It is a pleasure to note the appearance of this common-sense volume. One is usually prepared to find a book of this sort resembling most others on the same subject. Ordinarily, they are of a type and consist mostly of therapeutic orthodoxy. This one, however, differs, and is a satisfactory compendium brought very thoroughly up to date. Naturally, in a volume of this size, the subject matter must of necessity be more sketchy and suggestive than complete in its discussions. Nevertheless the most important facts are all there in brief form, and the author is to be congratulated on having completed a difficult task. The chapter on medication boils down in comparatively few pages the really useful drugs in medicine, and is of really more service to the practicing physician than a pharmacopoea.

H. I. W.

DEATHS

Beebe, Charles E. Died in Woodland, Calif., December 20, 1921. Was a graduate of Vanderbilt University, Tenn., 1885; also Willamette Univ., Oregon. Licensed in California, 1889. Was a member of the Medical Society State of California.

Griffin, Jesse Ansley. Died in Huntington Beach, Calif., December 16, 1921. Was a graduate of the Baltimore Medical College, Md., 1906. Licensed in California, 1921.

Hawkes, W. J. Died in Los Angeles, December 29, 1921. Was a graduate of Hahnemann Medical College, Pa., 1867. Licensed in California, 1898.

Keating, John J. Died in San Francisco, October 31, 1921. Was a graduate of the Barnes Medical College, St. Louis, Mo., 1901. Licensed in California, 1901.

Nicholson, A. R. Died in Fresno, Calif., December 24, 1921. Was a graduate of University of Michigan, 1879. Licensed in California, 1895. Was a member of the Medical Society State of California.

Shuey, Sarah I. Died in Oakland, November 23, 1921. Was a graduate of University of California, 1878. Licensed in California, 1879. Was a member of the Medical Society State of California.

Thorwick, Martha G. (di Giannini). Died in San Francisco, November 16, 1921. Was a graduate of the College of Physicians and Surgeons, Chicago, Ill. Licensed in California, 1901.

Wright, Henry Eugene. Died in Sacramento, Calif., November 25, 1921. Was a graduate of the University of California, 1894. Licensed in California, 1894.

Dr. Annie L. Miller died on December 29, 1921, at her home in Oakland. Dr. Miller was ninety-four years old. She graduated from the Homeopathic Medical College of Cleveland, Ohio, February 26, 1869, and was licensed in California on October 19, 1882. She was a member of the Alameda County Medical Society and the California State Society.

Boone, Reunette E. Died in Santa Rosa, Calif., December 11, 1921. Was a graduate from the Medical College, Syracuse University, New York, 1881. Licensed in California, 1895, and 76 years old.

Bray, Nicholas. Died November 22, 1921, in Glendale, Cal. Was a graduate of State University, Iowa, 1885. Licensed in California, October, 1920. Age 66.

McSwegan, Daniel. Died in San Diego, December 2, 1921. Was a graduate of the Medical College of the Pacific, Calif., 1878. Licensed in California, 1878.

Streichan, Paul Herman. Died in Honolulu, T. H., recently. Age 34. Was a graduate of Stanford University Medical School, San Francisco, 1920. Licensed in California, August, 1920.